

Women in academic medicine: Perceived obstacles to advancement

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To investigate perceived obstacles to the advancement of women in academic medicine, we sent a questionnaire assessing perceptions of the fairness and supportiveness of the academic environment to the 229 female teaching and research faculty of the School of Physicians & Surgeons at Columbia University. The overall response rate was 85%. Forty-six percent believed that they had not had the same professional opportunities as their male colleagues, 52% believed that salaries were not equivalent for men and women in similar positions, and 50% believed that promotions were awarded in a biased manner. Thirty percent reported that sexist behavior was common and that sexual harassment occurred in the workplace. Eighty-one percent experienced conflicts between their professional and personal lives and most believed that the institution failed to adequately address the needs of women with children. This survey indicates that there are significant perceived obstacles to the advancement of women in academic medicine that must be addressed.

Women have markedly increased their representation in academic medicine over the last 20 years.^{1,2} While several recent publications have documented the often conflicting demands of women physicians' professional and personal lives,³⁻¹¹ there have been few studies of how women in academic medicine view their work environments. Concerns about the equality of opportunity and salary and about the presence of sexism in academic medicine have often been reported anecdotally,¹²⁻¹⁵ but the perceptions of women faculty have not been systematically studied. Several reports have also documented the poor representation of women in leadership positions in academic medicine despite their increasing numbers.^{12-14,16,17} One recent analysis of data from the Association of American Medical Colleges pointed out that the "problem, however, is clearly not one of recruitment into academic medicine but one of advancement within it."¹⁷ Our previous work suggests that the lack of women in leadership positions may be accounted for, in part, by the time lag between the completion of training and the advancement into senior positions.¹⁸ However, given the large number of women now in junior positions in medical academia, it is critical to

understand how they see the forces that might impede their advancement. To investigate these issues, we collected qualitative data assessing the perceptions of female faculty regarding the fairness of the academic rewards system and the supportiveness of the academic environment.

Method

We designed a questionnaire that elicited information regarding: demographics; perceptions of the equity of opportunities, promotions, and salaries; the effects of sexism in the work environment; the availability and usefulness of role models; the stresses of conflicting personal and professional demands; and support for the establishment of an office of women's affairs. In 1988, we sent the questionnaire to all 229 female faculty of the School of Medicine whose primary office was located on the Health Sciences campus. This group included instructors and assistant, associate, and full professors as well as postdoctoral research fellows, associate research scientists, and research scientists. All clinical departments (anesthesiology, dermatology, medicine, neurology, neurological surgery, obstetrics and gynecology, ophthalmology, otolaryngology, orthopedic surgery, pathology, radiology, radiation oncology, surgery, and urology) and basic science departments (anatomy and cell biology, biochemistry, genetics and development, microbiology, pharmacology, and physiology) were included. The Department of Psychiatry was excluded because it is separately administered as part of the New York Psychiatric Institute. Residents, adjuncts, visiting faculty, and faculty with degrees other than the MD, PhD, or foreign equivalent were excluded. Nonrespondents were sent second or third questionnaires, and efforts were made to telephone those still failing to respond. For each question, responses were analyzed by department affiliation (clinical vs basic sciences) and by rank, junior (instructor, assistant professor, postdoctoral research fellow, and associate research scientist) vs senior (associate professor, professor, and research scientist).

Results

The overall response rate was 85% (194 of 229 surveyed).

Table 1—Women Physicians' Perceptions of Fairness in Opportunities, Salaries, and Promotions

1. Do you believe that you have had full access to the same professional opportunities as your male colleagues?			
	Yes	No	Unsure
Clinical (N = 164)	(63) 38%	(77) 47%	(24) 15%
Basic (N = 29)	(11) 38%	(13) 45%	(5) 17%
Junior (N = 134)	(53) 40%	(58) 43%	(23) 17%
Senior (N = 54)	(15) 28%	(32) 59%	(7) 13%
Total (N = 194)	(74) 38%	(90) 46%	(30) 15%
2. Do you believe that men and women in similar positions at this institution are paid equivalent salaries?			
	Yes	No	Unsure
Clinical (N = 162)	(31) 19%	(89) 55%	(42) 26%
Basic (N = 29)	(5) 17%	(10) 34%	(14) 48%
Junior (N = 133)	(29) 22%	(67) 50%	(37) 28%
Senior (N = 53)	(3) 6%	(32) 60%	(18) 34%
Total (N = 192)	(36) 19%	(99) 52%	(57) 30%
3. Do you believe that men and women at this institution are awarded promotions in an unbiased manner?			
	Yes	No	Unsure
Clinical (N = 164)	(13) 8%	(88) 54%	(63) 38%
Basic (N = 29)	(7) 24%	(9) 31%	(13) 45%
Junior (N = 134)	(11) 8%	(68) 51%	(55) 41%
Senior (N = 54)	(8) 15%	(29) 54%	(17) 31%
Total (N = 194)	(20) 10%	(97) 50%	(77) 40%

This rate differed slightly between clinical (164 of 188; 87%) and basic science (29 of 41; 71%) departments (Yates corrected chi square = 5.73, $p = .02$). The response rate was 83% (134 of 161) for junior faculty and 87% (54 of 62) for senior faculty.

The majority of women surveyed perceived the academic rewards system to be biased in a number of ways (Table 1). Forty-six percent of respondents thought that they had not had the same professional opportunities as their male colleagues and only 19% believed that women and men in similar positions were paid equivalent salaries. Fifty percent considered promotions to be biased and 40% were unsure, while only 10% indicated that they thought they were not biased. Sixty percent thought that more women drop out of tenure track positions and 59% that women may not choose academic careers because of a lack of institutional support. Seventy-one percent would support the establishment of an office of women's affairs to specifically address the needs of women faculty and students (Table 2). Thirty percent reported that sexist comments and attitudes were common in their work environment and 32% believed that sexual harassment occurred in the workplace (Table 3). Eighty-one percent indicated that they experienced conflicts between personal and professional demands. Despite the fact that the Medical Center has both an affiliated day care center and an affiliated nursery school, 74% did not think that the needs of women with children were adequately addressed by the institution (Table 4). Forty-six percent reported that greater access to role models would be helpful to them while 24% were unsure.

Table 2—Women Physicians' Perceptions of Institutional Support

1. Do you think that more women than men drop out of academic or tenure track positions?			
	Yes	No	Unsure
Clinical (N = 164)	(97) 59%	(11) 7%	(56) 34%
Basic (N = 29)	(18) 62%	(3) 10%	(8) 28%
Junior (N = 134)	(83) 62%	(5) 4%	(46) 34%
Senior (N = 54)	(30) 56%	(8) 15%	(16) 30%
Total (N = 194)	(116) 60%	(14) 7%	(64) 33%
2. Do you think that some women do not choose academic careers because of lack of institutional or departmental support for women?			
	Yes	No	Unsure
Clinical (N = 163)	(97) 60%	(24) 15%	(42) 26%
Basic (N = 29)	(17) 59%	(3) 10%	(9) 31%
Junior (N = 133)	(81) 61%	(17) 13%	(35) 26%
Senior (N = 54)	(31) 57%	(9) 17%	(14) 26%
Total (N = 193)	(114) 59%	(27) 14%	(52) 27%
3. Would you support the establishment of an office of women's affairs?			
	Yes	No	Unsure
Clinical (N = 164)	(116) 71%	(12) 7%	(36) 22%
Basic (N = 29)	(20) 69%	(1) 3%	(8) 28%
Junior (N = 134)	(100) 75%	(8) 6%	(26) 19%
Senior (N = 54)	(33) 61%	(5) 9%	(16) 30%
Total (N = 194)	(137) 71%	(13) 7%	(44) 23%

When the questionnaire data were stratified by basic science versus clinical department or by junior versus senior rank, there were relatively few differences, indicating that there is strong consensus among different subsets of women with regard to the climate for women at the College of Physicians & Surgeons. There were, however, several notable exceptions. Women in clinical departments were much more likely than those in basic science departments to think that salaries were unfair (55% vs 34%, $p = .04$) and that the promotions process was unfair (54% vs 31%); only 8% of women in clinical departments believed the promotions process was fair ($p = .01$). Al-

Table 3—Women Physicians' Perceptions of Sexist Attitudes and Sexual Harassment

1. Are sexist attitudes and remarks common in your work environment?			
	Yes	No	Unsure
Clinical (N = 164)	(49) 30%	(109) 66%	(6) 4%
Basic (N = 29)	(10) 34%	(13) 45%	(6) 21%
Junior (N = 134)	(42) 31%	(85) 63%	(7) 5%
Senior (N = 54)	(16) 30%	(33) 61%	(5) 9%
Total (N = 194)	(59) 30%	(123) 63%	(12) 6%
2. Do you believe that sexual harassment occurs at this institution?			
	Yes	No	Unsure
Clinical (N = 164)	(56) 34%	(20) 12%	(88) 54%
Basic (N = 29)	(7) 24%	(8) 28%	(14) 48%
Junior (N = 134)	(44) 33%	(19) 14%	(71) 53%
Senior (N = 53)	(18) 33%	(8) 15%	(28) 52%
Total (N = 194)	(63) 32%	(28) 14%	(103) 53%

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Table 4—Women Physicians' Perceptions of Support for Personal and Professional Roles

1. Do you experience conflict between the demands of your professional and personal lives?			
	Yes	No	Unsure
Clinical (N = 164)	(135) 82%	(24) 15%	(5) 3%
Basic (N = 29)	(22) 76%	(7) 24%	(0) 0%
Junior (N = 134)	(111) 83%	(19) 14%	(4) 3%
Senior (N = 54)	(42) 78%	(11) 20%	(1) 2%
Total (N = 194)	(158) 81%	(31) 16%	(5) 3%

2. Do you think that the needs of professional women with children are adequately addressed at this institution?			
	Yes	No	Unsure
Clinical (N = 164)	(3) 2%	(121) 74%	(40) 24%
Basic (N = 29)	(1) 3%	(22) 76%	(6) 21%
Junior (N = 134)	(3) 2%	(98) 73%	(33) 25%
Senior (N = 54)	(1) 2%	(42) 78%	(11) 20%
Total (N = 194)	(4) 2%	(144) 74%	(46) 24%

3. Would greater access to appropriate role models be helpful to you?			
	Yes	No	Unsure
Clinical (N = 164)	(77) 47%	(46) 28%	(41) 25%
Basic (N = 29)	(12) 41%	(11) 38%	(6) 21%
Junior (N = 134)	(69) 51%	(33) 25%	(32) 24%
Senior (N = 54)	(18) 33%	(23) 43%	(13) 24%
Total (N = 194)	(89) 46%	(58) 30%	(47) 24%

though they were more likely to report that sexist attitudes and remarks were *not* common in their work environments (66% vs 45%, $p = .001$), they were slightly more likely to believe that sexual harassment occurred in the institution (34% vs 24%, $p = .08$). When the data were stratified by junior vs senior rank, senior women were more likely to think that salaries were not equivalent for men and women (60% vs 50%, $p = .03$); only 3 of 53 senior faculty thought that salaries were equivalent. Interestingly, junior women were slightly more likely than senior women (62% vs 56%, $p = .02$) to think that women, more than men, drop out of academic positions. Not surprisingly, junior women were also more likely to report that greater access to role models would be helpful (51% vs 33%, $p = .03$).

Discussion

This survey indicates that faculty women at our institution perceive many inequities in the academic environment—particularly in promotions, salaries, and lack of support for parental responsibilities—that may make it more difficult and stressful for them to realize their full academic potential. Many women at our institution believe that they do not have the same professional opportunities as their male colleagues. Survey respondents also believe that more women than men drop out of the tenure track or do not choose academic careers because of lack of institutional support. Even though the promotions record at our institution does not reveal gross discrimination,¹⁸ many women, especially those in clinical departments, perceive the promotions process to be biased against them. These subjective data, together with the fact that women are

disproportionately represented on clinical tracks both at our institution and nationally, imply that there may be many more qualified women who could succeed in tenure track positions if encouraged.

Most female faculty at our institution also do not believe that they are paid salaries equivalent to those of comparable male colleagues. Actual salary data for our institution are not available, but other studies of women in academia and medicine have documented salary inequities.¹⁹⁻²¹ A recent report of the American Academy for the Advancement of Science found that women in science are paid less than men with the same experience and that this salary differential increases with years of experience.²¹ This widening gap may explain why the senior women in our study were more likely than junior women to perceive salary inequities. Nationwide, the average income of female physicians in 1982 was 63% and in 1986, 60% of the average income of male physicians.²² This differential may partly reflect the younger average age of women physicians as well as differences in specialty choices. Differences in the proportion of women in different specialties, however, may themselves be due to greater obstacles to women in the more highly paid, procedure-oriented specialties and subspecialties. Because salaries in academic medicine often come from multiple sources, including grants, departmental budgets, and patient care, it may be particularly challenging to detect and correct salary inequities. Nonetheless, experience at several medical schools where this problem has been addressed indicates that with institutional commitment, salary inequities can be identified and rectified.^{23,24}

Another source of stress highlighted by the questionnaire responses was insufficient support for women with children. The lack of adequate maternity leave policies, available part-time work arrangements, child care, and more flexible promotion policies accommodating the multiple responsibilities of young faculty members with families are all perceived by women faculty as significant barriers. While these issues may also be important to male faculty members, the careers of women continue to be more sensitive to conflicts between home and work commitments. Major changes in the provision and funding of child care are needed to insure that women are not penalized any more than men for having families and to allow women, even in their childbearing years, to be productive and committed to their careers.

There are several limitations to this study. The first is that the results may not be generalizable to other institutions. It is possible that women faculty at the College of Physicians & Surgeons are somehow different from faculty at other medical schools. We have no evidence to support or refute this possibility. The second limitation is that our questions were specifically formulated to elicit subjective responses. Therefore, this study does not document the presence or absence of discrimination in opportunity or salary, but rather addresses the perceptions of women faculty. While this may be considered less useful in motivating change than proving discrimination, per-

ceived inequities may constitute major obstacles by discouraging women from pursuing academic careers. In the interests of attracting the best female medical school graduates into academic medicine and of building strong faculties with equal representation of women at the highest levels, we must attend to these concerns. Lastly, although all questionnaire studies suffer from some degree of response bias, we do not believe that our findings are markedly biased since we achieved a good response rate. Although we might expect that nonrespondents would be likely to have fewer concerns about the fairness of their work environment, we actually found (through telephone contact) that some nonrespondents were extremely concerned about these issues but were afraid that their confidentiality would be breached.

Conclusion

The large increase in women in the medical profession of the mid-1970s is now reflected in large numbers of women at the junior ranks in academic medicine. In order for these women to succeed and fulfill their potential, they need support. As our survey shows, many women currently perceive the academic environment to be at least partly unfair and unsupportive. Medical school administrators must make scrupulous efforts to assure that promotions and salaries are determined according to nondiscriminatory standards and to support young faculty of both sexes with children, establishing adequate maternity/paternity leave policies, modifying tenure clocks as necessary, and supporting affordable on-site day care facilities. Women continue to be underrepresented in many specialties and these departments should be encouraged to make special efforts to attract women. Women must be brought into the power structure of medical schools by being recruited to dean, chair, and unit head positions and by being asked to serve on important administrative committees. They must become more visible to students by teaching in basic science courses and by being invited to speak at grand rounds and at special teaching conferences and symposia. The needs and solutions will differ among institutions and may be best coordinated by offices of women in medicine. As our survey data show, there are many ways in which the climate for women in academic medicine could be improved. If medicine hopes to continue to attract the best college students, the needs of women in medicine must be addressed and their enormous contributions recognized.

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