### ORIGINAL RESEARCH • NOUVEAUTÉS EN RECHERCHE

# Differences in abuse reported by female and male Canadian medical students

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**Objective:** To assess differences between male and female medical students concerning their experiences of abuse during training in a large Canadian medical school.

**Design:** Voluntary, anonymous cross-sectional survey of first- and fourth-year medical students during February 1991.

Setting: University of Toronto School of Medicine.

**Participants:** Of 396 first- and fourth-year students surveyed after one of their regular classes, 347 (117 women, 230 men) completed the questionnaire.

**Intervention:** A 165-item, multiple-choice questionnaire concerning experiences of verbal or emotional abuse, sexual harassment and physical abuse, completed within 30 minutes.

Main outcome measures: Differences between male and female respondents in abuse experiences before and during medical training, the relation between abuse before and during training, and the psychologic and behavioural effects of abuse during training.

**Results:** The experiences of the male and female respondents differed mainly in regard to sexual harassment: 42% (49/117) of the women and 11% (25/230) of the men reported sexual harassment before entering medical school (p < 0.0001); 46% (54/117) and 19% (43/230) respectively reported sexual harassment during medical training (p < 0.0001); and women who reported sexual harassment were the only respondents for whom a significant relation was found between abuse before and during training (p < 0.043). The women were more distressed than the men by all forms of abuse. A significant relation was shown between male students who reported experiencing abuse during medical training and mistreating patients (p < 0.0001).

Conclusion: Female students' experiences of sexual harassment differed from those of their male counterparts. As well, the female students' reactions to and ways of coping with all types of abuse differed from those of the male students.

**Objectif:** Évaluer les différences quant aux abus vécus par les étudiants et les étudiantes en médecine au cours de leurs études dans une grande faculté de médecine du Canada.

Conception: Sondage transversal anonyme volontaire auprès d'étudiants et d'étudiantes de première et de quatrième années de médecine, effectué en février 1991.

Contexte : Faculté de médecine de l'Université de Toronto.

**Participants :** Des 396 étudiants et étudiantes de première et de quatrième années à qui on a remis le questionnaire après un de leurs cours réguliers, 347 (117 femmes, 230 hommes) ont répondu.

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**Intervention :** Questionnaire à choix multiples de 165 questions portant sur des expériences d'abus verbaux ou psychologiques, de harcèlement sexuel et d'abus physiques, rempli en 30 minutes.

**Principales mesures des résultats:** Différences entre les répondants et les répondantes quant aux abus vécus avant et pendant leur cours de médecine, relation entre les abus avant et pendant la formation et répercussions psychologiques et comportementales des abus au cours de la formation.

**Résultats :** Les expériences des répondants et des répondantes diffèrent principalement sur le plan du harcèlement sexuel : 42% (49/117) des femmes et 11% (25/230) des hommes ont été victimes de harcèlement sexuel avant leur entrée à la faculté de médecine (p < 0,0001); 46% (54/117) et 19% (43/230) respectivement ont été victimes de harcèlement sexuel pendant leur cours de médecine (p < 0,0001); les femmes qui ont été victimes de harcèlement sexuel ont été les seuls répondants à l'égard desquels on a établi une relation importante entre les abus avant et pendant la formation (p < 0,043). Toutes les formes d'abus ont perturbé plus les femmes que les hommes. On a démontré un lien important chez les étudiants de sexe masculin entre ceux ayant dit avoir été victimes d'abus pendant leur cours de médecine et ceux ayant dit avoir infligé de mauvais traitements aux patients (p < 0,0001).

**Conclusion :** Les expériences des étudiantes face au harcèlement sexuel diffèrent de celles de leurs collègues étudiants, de même que leurs réactions à toutes formes d'abus et leurs façons d'y faire face.

he past two decades have witnessed an increased awareness of the relevance of differences between men and women in science research and education as well as in the delivery of and access to health care. The Council on Ethical and Judicial Affairs of the American Medical Association recommends that "physicians examine their practices and attitudes for the influence of gender, social, or cultural biases that could affect medical care." As a result of this awareness several recent studies have recognized the importance of discussing differences between the experiences of men and women during medical training.<sup>3-6</sup>

Verbal, emotional, sexual and physical abuse of male and female students in US medical schools has been well documented.<sup>5-9</sup> Using data from the first Canadian survey of medical students' experiences of abuse, conducted in February 1991, we analysed differences between men and women in abuse before entering medical school, abuse during medical training, the relation between abuse before and during training, the perpetrators of abuse during training, attitudes and beliefs about abuse in medical school, reporting of abuse, the psychologic effects of abuse and the perpetuation of abuse (students who were victims subsequently abusing their patients). Throughout this article the terms "abuse" and "mistreatment" are used synonymously.

#### **Methods**

For this study we developed the Medical Student Abuse Survey (MSAS), a 165-item multiple-choice questionnaire to collect information about students' demographic characteristics, their experiences of mistreatment in medical school and their reactions to such treatment. It was designed to be administered to large groups and completed within 30 minutes. The MSAS incorporated aspects of previous questionnaires<sup>5,10,11</sup> as

well as questions concerning past experiences of abuse and propensity for perpetuating abuse. The question-naire was given to 12 second- and fourth-year medical students in early 1990 to ensure its clarity and ease of administration. The MSAS was also reviewed by experts in research methodology and a consultant statistician, whose comments were incorporated in the final revision.

The MSAS was administered to first- and fourthyear medical students after regular classes. The specific classes were chosen for scheduling reasons, to ensure completion of all questionnaires during February 1991. All students were expected to attend; however, attendance at classes was not compulsory. After an oral presentation about the purpose of the survey and an assurance of anonymity, the MSAS was distributed to all students present. Participation was voluntary. The cover page of the MSAS included an explanation of the rationale for the questionnaire, definitions of verbal and emotional abuse, sexual harassment and physical abuse (Appendix 1). Answer sheets were processed with an optical scanner, transferred to diskette and analysed by a consultant statistician with the use of the Statistical Package for the Social Sciences program (version 4.1, SPSS Inc., Chicago). Simple cross-tabulations were performed to determine differences in responses between men and women. Probability values for nominal data were calculated by the  $\chi^2$  test, and Spearman rank correlation coefficients  $(r_s)$  were computed for ordinal data.<sup>12</sup> Results with a p value of less than 0.05 were considered statistically significant.

#### Results

All 505 students enrolled in the first (250) and fourth years (255) of medical school at the University of Toronto in the academic year 1990–91 were eligible for

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inclusion in this study. Of these students 171 (34%) were women and 334 (66%) men (Jane Murray, administrator, Office of Admissions and Students Affairs, Faculty of Medicine, University of Toronto: personal communication, 1991). Of the 505 eligible students 396 were present on the 2 days that the MSAS was administered. Of these students 347 completed the questionnaire; 117 (34%) were women and 230 (66%) men. There was no significant difference in the response rate between the male and female students: 68% (117/171) of the women responded, as did 69% (230/334) of the men. Demographic variables (age, sex, visible minority status and previous academic background) did not differ significantly between the students eligible for inclusion and the respondents. Therefore, we felt that the respondents were representative of the medical student population. Two major reasons for nonparticipation in this survey were absence from class on the days the questionnaire was administered and the requirement to return to clinical duties immediately after the class. Neither of these reasons was related to the MSAS per se, and we did not feel that they biased the results significantly.

#### Abuse before entering medical school

Of all forms of abuse, differences between the male and female respondents were evident only for sexual harassment (Table 1). Of the respondents 21% (74/347) were sexually harassed before entering medical school; this involved 42% (49/117) of the women and 11% (25/230) of the men ( $\chi^2 = 44.45$ , 1 degree of freedom [df], p < 0.0001).

#### Abuse during medical training

The only form of mistreatment for which male and female experiences were significantly different was sexual harassment (Table 1). Of the respondents 28% (97/347) reported sexual harassment during med-

ical school; this involved 46% (54/117) of the women and 19% (43/230) of the men ( $\chi^2 = 29.03$ , 1 df, p < 0.0001).

### Relation between abuse before and during medical training

The survey results showed a significant relation between past abuse and that during medical training only in the area of sexual harassment. Of the 74 students who experienced sexual harassment before entering medical school, nearly half (47% [35/74]) also experienced it during training. Of those who denied any previous sexual harassment 23% (62/273) experienced it in medical school ( $\chi^2 = 17.5$ , 1 df, p < 0.0001).

When the data were analysed by sex 57% (28/49) of the female students with a history of sexual harassment were sexually harassed in medical school, as compared with 38% (26/68) of their female peers who had not experienced prior sexual harassment ( $\chi^2 = 4.10$ , 1 df, p < 0.043).

There was no significant relation between sexual harassment before and during medical school for the male students. Of the men who reported prior sexual harassment 28% (7/25) also experienced sexual harassment during medical training, as compared with 18% (36/205) of their male peers who denied any previous sexual harassment ( $\chi^2 = 1.60$ , 1 df, p > 0.20).

#### Perpetrators of abuse

Reported perpetrators of abuse (peers, faculty members, clinicians and hospital staff members, interns and residents, nurses and other health care professionals) were generally the same for the male and female students (Table 2). Each form of mistreatment was analysed for differences in the identified perpetrators of abuse. Again, a difference was found only for sexual harassment. The greatest difference in reports of perpetrators

Type of abuse	Group; no. (and %) of respondents				
		men 117)		en 230)	p value*
Before medical school					
Verbal or emotional abuse	69	(59)	129	(56)	0.609
Sexual harassment	49	(42)	25	(11)	< 0.0001
Physical abuse	19	(16)	58	(25)	0.057
In medical school	deme				
Verbal or emotional abuse	82	(70)	151	(66)	0.407
Sexual harassment	54	(46)	43	(19)	< 0.0001
Physical abuse	7	(6)	19	(8)	0.531

between the two groups was for clinicians. Of the women who were sexually harassed during medical training 50% (27/54) identified clinicians as the main perpetrators, as compared with only 23% (10/43) of the men who reported sexual harassment during training ( $\chi^2 = 7.59$ , 1 df, p < 0.006). This finding is particularly relevant, since the main source of abuse shifted from peers in the first-year group to clinicians in the fourth-year group (unpublished data).

### Students' beliefs and attitudes about abuse in medical school

The students were asked to rank their beliefs concerning the existence of mistreatment during medical training on a five-point scale, ranging from "Does not exist" to "Is a major problem." The respondents were divided into two categories: those who believed that abuse was a significant problem and those who did not. Of the 329 students who responded 84% (91/108) of the women and 64% (141/221) of the men were in the former category ( $\chi^2 = 14.60$ , 1 df, p < 0.001).

The students were also asked "Knowing what you do today about your experiences with respect to abuse [during medical training], if you could go back in time would you still apply to medical school?" They used a five-point scale, ranging from "Definitely not" to "Certainly, without hesitation." The women were significantly more likely than the men to have doubts or regrets about their choice of medicine as a career  $(r_s = 0.122, p < 0.027)$ .

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#### Reporting of abuse

The students were asked whom they had informed about their mistreatment. The respondents were separated into those who told no one and those who told someone (family or close friend, supervisor or mentor, someone in the dean's office or the police). The women were significantly more likely to disclose their abuse experiences than their male counterparts. Of the students who answered this question 56% (49/87) of the women told someone, as compared with 29% (45/153) of the men ( $\chi^2 = 16.86$ , 1 df, p < 0.001).

#### Psychologic effect of abuse

The students were asked to rank how much the abuse during training affected them on a five-point scale, ranging from "Not at all" to "Still trying to come to terms with it." For purposes of analysis the responses were categorized by whether the abuse had a significant effect. Differences between the men and women in self-assessment of distress following abuse are shown in Table 3. A greater proportion of the women than of the men reported feeling affected by verbal abuse ( $\chi^2 = 11.34$ , 1 df, p < 0.0001) and sexual harassment ( $\chi^2 = 20.74$ , 1 df, p < 0.0001). Data showed a similar trend for physical abuse; however, there were too few students in each category to allow definitive conclusions.

An additional indication of distress following abuse is "diminished interest in or enthusiasm for courses and studies." Of the 245 students who experienced some

Perpetrator	Group; no of response		
	Women (n = 54)	Men (n = 43)	p value
Peer	28 (52)	18 (42)	0.092
Faculty member Clinician or hospital	23 (42)	12 (28)	0.079
staff member	27 (50)	10 (23)	0.006
Intern or resident	16 (30)	10 (23)	0.601
Nurse	3 (6)	7 (16)	0.143
Other health care professional	3 (6)	3 (7)	0.789

Table 3: Proportion of medical students who reported feeling distressed after abuse, by type of abuse							
	Group; of res						
Type of abuse	Women	Men	p value				
Verbal or emotional abuse Sexual harassment Physical abuse	44/82 (54) 27/54 (50) 3/7 (43)	47/151 (31) 3/43 (7) 2/18 (11)	< 0.000° < 0.000° > 0.05				

form of abuse during training 39% (35/89) of the women and 27% (42/156) of the men reported this form of distress ( $\chi^2 = 4.045$ , 1 df, p < 0.044).

#### Perpetuation of abuse

Of the 183 students who acknowledged having mistreated someone (peer, more junior medical student, patient or patient's family, nurse or other health care professional, or secretary or other support staff), the proportion of men and women did not differ significantly (56% [128/230] and 47% [55/117] respectively) ( $\chi^2$  = 2.32, 1 df, p > 0.10).

However, in examining the relation between experiences of abuse during training and mistreatment of patients we found a significant difference between the two groups. Of the male students who had experienced some form of abuse in medical school 21% (33/156) believed that they had mistreated patients, as compared with none of their 74 male peers who denied experiencing any abuse during medical training ( $\chi^2 = 18.27$ , 1 df, p < 0.0001). The corresponding figures for the female students were 19% (17/89) and 7% (2/28) ( $\chi^2 = 2.23$ , 1 df, p > 0.135).

The same patterns were observed when all of the students who had reported experiencing abuse before entering medical school were eliminated from the analysis.

#### Discussion

This survey investigated abuse as perceived by the students. The lack of objective criteria in self-report measures is a common criticism of this type of survey. However, it is the student's perception of abuse that ultimately affects his or her quality of life. 13

Our findings regarding the prevalence of sexual harassment before medical school are consistent with those from surveys of college women in the United States, <sup>14</sup> Canadian women in general. <sup>15</sup> and US women in general. <sup>16</sup> There are few comparable surveys of men. <sup>17</sup>

The prevalence of sexual harassment during medical training reported in our survey (28%) did not differ significantly from the prevalence before medical school (21%) nor from the prevalence reported in other studies (36% to 73%). 6.8.9.18 Our observation that the women were particularly vulnerable to sexual harassment is corroborated by a large, carefully designed, random-sample survey of 24 000 US government employees. 19 Among the 20 000 respondents to the survey 42% of the women and 15% of the men reported having been sexually harassed in the preceding 24 months.

Our finding that the women who experienced sexual harassment before entering medical school were more vulnerable to subsequent sexual harassment during training than either the women without this experience or the men is consistent with previous reports in the literature concerning date rape and the revictimization of adult survivors of childhood sexual abuse.<sup>14,16</sup> Many theories have been suggested to account for this revictimization. One theory proposes that the survivors of childhood sexual abuse have a tendency to suppress or deny the abuse, which may in turn result in a failure to recognize subsequent abusive situations and impaired judgement in interpersonal relationships in general. This phenomenon may be related to "learned helplessness," an inability to avoid abusive situations or protect oneself in them.<sup>20,21</sup>

The hospital setting, in which learning frequently takes place in small groups, seems to facilitate the sexual harassment of women, particularly by their clinician teachers, most of whom are men (Dr. Beverly Richardson, chairperson, Gender Issues Committee, Faculty of Medicine, University of Toronto: personal communication, 1992). Contributing factors include society's apparent tolerance of sexual harassment<sup>19-26</sup> and the relative powerlessness of students, who are on the lowest rung of the medical hierarchy.

Our finding that more of the female students than of the male students were sensitized to the presence of abuse and regarded it as a significant problem in medical school suggests that women are more affected than men by factors in the process of becoming a physician. Men, at least on a conscious level, seem to be more interested in the end result: being a physician.<sup>27</sup>

That more of the women than of the men informed someone of their experiences is in keeping with recent theories concerning the psychologic development of women, which postulate that the sharing of experiences in general is very important to them.<sup>28</sup> Men, by contrast, are raised in our culture not to share experiences, especially those that portray them as vulnerable or "weak."<sup>29</sup> This view would suggest that the abuse of male medical students, and men in general, is underreported.

New evidence supports the view that men and women experience traumatic events in different ways.<sup>30</sup> This theory is consistent with our finding that more of the women than of the men experienced increased distress and less enthusiasm for studies after an abusive incident.

Psychologic theories propose that women tend to be more dependant than men on external feedback for self-esteem.<sup>28,31-33</sup> Abusive behaviour by others negatively affects self-worth for both sexes, but this effect is manifested differently in women and men. Women tend to internalize their bad feelings and react by losing interest in activities,<sup>31</sup> whereas men are more likely to externalize similar feelings by behaving aggressively toward others.<sup>9,14,34,35</sup> This observation is supported by our findings about the students' perpetuation of mistreatment.

The perpetuation of abuse by men has been well established in the literature.<sup>36-39</sup> Our study supports these findings. The women who experienced abuse during training were no more likely to abuse patients than their

female peers without any abusive experiences during training. However, the men who experienced some form of abuse during training were significantly more likely to abuse patients than their male peers who were not abused in medical school. All of the male students who did not perceive themselves as being mistreated during training also did not perceive themselves as mistreating anyone else; this finding raises the question of the extent to which the psychologic defence mechanism of denial was at work.

#### Recommendations

Faculty members and students should be educated about the differences between men and women in coping with and reacting to potentially abusive experiences. They should also be sensitized to which types of behaviour are perceived as abusive.

Faculty members and students should be educated as well about the differences between the sexes in the prevalence of sexual abuse, its subsequent wide-ranging psychologic, emotional and behavioural effects, and reporting patterns.

Research is needed to validate subjective reports of abuse with objective findings of mistreatment.

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#### Appendix 1: Definitions of abuse used for this survey

Verbal abuse: to be spoken to or about in a harmful, disrespectful, hurtful, insulting, harsh or unjust manner; to be reviled; unnecessary and avoidable words of a negative nature inflicted by one person on another or others

Sexual harassment: unwanted sexual advances, requests for sexual favours or other verbal or physical conduct of a sexual nature in a setting in which noncompliance, refusal or protest could have a negative effect on academic standing (e.g., marks). Examples of sexual harassment include the following:

 Being stared or leered at, ogled; unwelcome remarks, jokes, innuendo or taunting about a person's body, attire, age or marital status

- Display of pornographic, sexually offensive or derogatory pictures
- Unnecessary physical contact such as touching, pinching and patting
- Sexual intimacy with or without actual intercourse
   Physical abuse: any physical contact that is unwelcome, offensive or injurious

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Le 24 avr. 1994 : Association des facultés de médecine du Canada 6<sup>e</sup> conférence sur la main-d'oeuvre médicale canadienne

Vancouver

Eva Ryten, l'Association des facultés de médecine du Canada, 1006–151, rue Slater, Ottawa, ON K1P 5N1; fax (613) 594-3364

Apr. 24, 1994: Association of Canadian Medical Colleges 6th Conference on Physician Manpower

Vancouver

Eva Ryten, Association of Canadian Medical Colleges, 1006–151 Slater St., Ottawa, ON K1P 5N1; fax (613) 594-3364

Apr. 24–26, 1994: 4th Annual Palliative Care Conference — Caring for the Dying: Choices, Contrasts and Challenges (cosponsored by the Canadian Association of Nurses in Oncology, the Community Hospice Association of Ontario, the Metropolitan Toronto Palliative Care Council, the Palliative Care Group of the Ontario Medical Association and the Ontario Palliative Care Association)

Toronto

Keynote presentations: Marcia Lattanzi-Licht, Drs. Peter Singer and Michael Downing

Business and Industry Services, Humber College, 205 Humber College Blvd., Etobicoke, ON M9W 5L7; tel (416) 675-5060, fax (416) 675-0135

Apr. 25–26, 1994: Canadian Pharmacoepidemiology Forum Toronto

Dr. C. Ineke Neutel, Health Protection Branch, Health Canada, 3rd floor E, Sir F.G. Banting Research Centre, Tunney's Pasture, Ottawa, ON K1A 0L2; tel (613) 954-6745, fax (613) 966-8774 Apr. 25–26, 1994: International Symposium on Inherited Epidermolysis Bullosa (cosponsored by the Office of Continuing Medical Education, University of North Carolina School of Medicine, and by the National Epidermolysis Bullosa Registry; precedes the annual meetings of the Society for Investigative Dermatology and the American Federation for Clinical Research)

Chapel Hill, NC

Dr. Jo-David Fine, Department of Dermatology, University of North Carolina at Chapel Hill, 137 NCMH, CB 7600, Chapel Hill, NC 27514; tel (919) 966-3321

Les 26 et 27 avr. 1994 : Immunologie et leucémies — Symposium international

Nancy, France

Langues officielles : le français et l'anglais Laboratoire d'immunologie, Faculté de médecine, BP 184, 54500 Vandoeuvre-Lès-Nancy, France; tél 011-33-83-59-28-56, fax 011-33-83-44-60-22

Apr. 26–27, 1994: Immunology and Leukemia — International Symposium

Nancy, France

Official languages: English and French

Immunology Laboratory, Faculty of Medicine, PO Box 184, 54500 Vandoeuvre-Les-Nancy, France; tel 011-33-83-59-28-56, fax 011-33-83-44-60-22

Apr. 26–30, 1994: 6th International Congress for Infectious Diseases (includes presentation of the International Society for Infectious Diseases Awards)

Prague, Czech Republic

International Society for Infectious Diseases, 180 Longwood Ave., Boston, MA 02115; fax (617) 731-1541

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