

Women in pharmacy: A preliminary study of the attitudes and beliefs of pharmacy students

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ABSTRACT



Background: Women have historically been attracted to pharmacy because it is widely perceived as a profession that offers them an opportunity to combine a professional career with a family. Women now make up the majority of practising pharmacists in Canada, yet the literature demonstrates disparities such as gender segregation and underrepresentation of women in senior positions. This study was intended to identify the attitudes and beliefs of pharmacy students about women's issues in pharmacy and raise awareness of these issues.

Methods: First- and fourth-year University of Saskatchewan pharmacy students were invited

to share their overall impressions of the status of female pharmacists and the impact of women on the pharmacy profession through an online questionnaire.

Results: Of the 60 respondents, the majority disagreed that there is segregation of men and women in pharmacy. More fourth-year students than first-year students recognized the underrepresentation of women in pharmacy management. Many students believed the number of women in pharmacy would have no negative impact on the profession. Forty students (67.8%) agreed that it is important to maintain a significant proportion of men in pharmacy.

Conclusion: Most pharmacy students in this study do not recognize gender disparities present in pharmacy or the impact the disproportionate number of women could have on the profession. *Can Pharm J* 2013;146:109-116.

Although the higher proportion of women in faculties and schools of pharmacy is apparent to pharmacy students, we were interested in evaluating students' understanding of the implications of a largely female workforce, both for individuals entering the profession and for the profession itself.

Même s'il est évident pour les étudiants en pharmacie qu'une proportion beaucoup plus élevée de femmes fréquente les facultés et les écoles de pharmacie, nous avons cherché à mieux comprendre la perception des étudiants quant à l'implication d'un effectif composé majoritairement de femmes, tant sur les candidats qui veulent s'établir dans la profession que sur la profession elle-même.

Introduction

For many years, pharmacy has been touted as a female-friendly profession. Two "feminized niches" have presented pharmacy opportunities that appealed to women.¹ The first was a growing hospital sector, where female pharmacists have outnumbered male pharmacists for nearly 50 years.^{2,3} As of 2009, 75.7% of pharmacists working in the hospital setting were female.⁴ Hospital pharmacy afforded pharmacists the opportunity to provide patient care, where "feminine" attributes such as communication and empathy were useful skills.^{1,5,6} The second was the emergence of the staff pharmacist, a position more

commonly held by women than by men.^{4,7-9} Of community pharmacists, females accounted for 69.1% of staff pharmacist positions in 2009.⁴ The increasing number of chain pharmacies created an opportunity for female pharmacists to work in a retail setting with flexible scheduling options. With staff pharmacist positions readily available, women could leave the profession during their childbearing years and return to work part-time.^{2,7,8,10} At the same time, it has been suggested that men, being more likely to choose pharmacy for its entrepreneurial opportunities, became more reluctant to enter pharmacy as prospects for ownership declined with the advent of chain

KEY POINTS

- Despite the increasing number of women in pharmacy, the literature continues to demonstrate a disparity in gender representation in senior positions.
- Pharmacy students were surveyed to determine their attitudes and beliefs about the increasing number of women in pharmacy and its impact on the profession.
- Although fourth-year students were more aware of the gender disparity than first-year students, pharmacy students in this study did not recognize the extent of the differences and underestimated the potential impact of a primarily female workforce on the profession.
- Pharmacy educators and preceptors should foster students' awareness of the gender disparity in the profession and support female students and recent female graduates in their career development.

pharmacies; as men have left the profession, women have stepped in to fill the gap.^{2,9}

Regardless of the rationale for the influx of women into the profession, women now outnumber men in pharmacy.¹¹ By 2009, women made up 59.2% of licensed pharmacists and 68.3% of new pharmacy graduates in Canada.⁴ The notable presence of women in pharmacy has reinforced the facade of pharmacy as a profession that has successfully integrated women into a previously male-dominated workforce. Yet this obvious demographic change masks a more subtle but persistent gender disparity in the profession.^{1,7,9} Female pharmacists tend to occupy lower-paid, lower-status positions than male pharmacists; deterrents to higher-status positions, such as inflexible or antisocial working hours, family responsibilities and limited geographic mobility, have a greater impact on women compared with men.^{12,13} Rather than being fully integrated into the profession, female pharmacists have been segregated into these "feminized niches." Women are currently underrepresented in pharmacy management and ownership positions; as of 2009, only 39.1% of these higher-paid and higher-status positions were held by females.⁴ Although female participation in pharmacy academia is rising, predominantly due to increases in assistant and associate professor positions, women are also underrepresented in academic leadership roles.¹⁴ The American Association of Colleges of Pharmacy reported in 2008–2009 that only 30% of deans of colleges or schools of pharmacy and 20% of chairs of pharmacy practice were female.¹⁴ Currently, only 20% of deans or directors of

Canadian colleges and schools of pharmacy are female.¹⁵

Although it has been proposed that the underrepresentation of women in senior positions is simply a result of personal choices,^{7,10} there is evidence that men and women do not have equal opportunities to further their careers.^{7,10,16} Women are less often included in mentoring and networking relationships and report lower levels of co-worker support compared with men.^{13,16,17} These play an important role in career advancement.^{13,17–19} Women who choose to temporarily leave the profession or reduce their hours often must do so at the expense of career development, much of which happens in the childbearing years.^{1,3,16} Although it should be noted that studies demonstrating a salary gap may not have been sufficiently well designed for gender alone to explain the disparity,²⁰ salary gaps between male and female pharmacists persist.^{7,12,13,19,21} In addition, a recent American study designed to determine whether a gender earning gap exists found that male pharmacists continued to earn higher incomes than female pharmacists when controlling for various explanatory variables.²²

Out of the demographic shift have arisen new concerns about the future of the pharmacy profession. Feminization of a profession has often coincided with reduced status of that profession and salaries of both men and women fall as the proportion of women increases.^{1,2,9} For the first time in the past 13 years, there was no growth in the average hourly wage for staff pharmacists, while wages for owners, managers and relief/contract pharmacists decreased.²²

Although the pharmacist shortage has started to correct,²³ the increasing presence of women in pharmacy may contribute to a future shortage, given that female pharmacists prefer flexible scheduling options and are more likely to work part-time or take parental leave.^{1,3,8,18,24,25} Furthermore, as women are less likely to occupy management positions, the pharmacy manager may become an increasingly scarce human resource.^{3,18,19}

The purpose of this study was to identify and compare the attitudes and beliefs of male and female pharmacy students about women's issues in the pharmacy workplace and about professional issues arising from the increased proportion of women in pharmacy. Second, the study was designed to increase students' awareness and promote discussion of these issues while completing the questionnaire.

TABLE 1 Demographics of respondents

Respondent demographics	No. (%)
Age, y (n = 59)	
<25	40 (67.8)
25–29	18 (30.5)
30–39	1 (1.7)
40–59	0 (0.0)
60+	0 (0.0)
Year of pharmacy (n = 60)	
First	34 (56.7)
Fourth	26 (43.3)
Sex (n = 60)	
Female	48 (80.0)
Male	12 (20.0)
Marital status (n = 59)	
Single	44 (74.6)
Married	11 (18.6)
Widowed/separated/ divorced	1 (1.7)
Other	3 (5.1)

Methods

First- and fourth-year undergraduate pharmacy students at the University of Saskatchewan College of Pharmacy and Nutrition were invited by e-mail to participate in an online questionnaire in January 2010; a reminder was sent in April 2010. The questionnaire consisted of a series of statements adapted from the thesis, “Women in Pharmacy: A Delphi Survey of the Attitudes and Beliefs of Practising Pharmacists in Saskatchewan.”²⁶ Students were asked to indicate the extent to which they agree with each statement on a 5-point Likert scale, where 1 is *strongly disagree* and 5 is *strongly agree*. There was space available at the end of each section of statements for students to comment, and students were also asked to indicate what other issues they thought might arise from the increasing proportion of women in pharmacy. The questionnaire can be viewed at <https://survey.usask.ca/survey.php?sid=16884> and will be repeated yearly until April 2016. Respondents will be resurveyed to evaluate how students’ attitudes and beliefs change as they enter pharmacy practice.

POINTS CLÉS

- Malgré le nombre croissant de femmes dans le secteur pharmaceutique, la documentation révèle toujours une grande disparité entre les sexes parmi les titulaires des postes de direction.
- Nous avons interrogé les étudiants en pharmacie pour connaître leurs attitudes et leurs croyances au sujet du nombre croissant de femmes dans le secteur pharmaceutique et des effets de cette augmentation sur la profession.
- Même si les étudiants de quatrième année étaient plus conscients de la disparité entre les sexes que ceux de première année, les étudiants en pharmacie interrogés dans le cadre de cette étude n’ont pas reconnu l’ampleur des différences et ont sous-estimé les effets possibles d’un effectif presque entièrement composé de femmes sur la profession.
- Les enseignants en pharmacie et les précepteurs devraient favoriser une prise de conscience chez les étudiants en ce qui a trait à la disparité entre les sexes au sein de la profession et aider les étudiantes et les diplômées à progresser dans leur parcours professionnel.

Results

Of the 180 students invited to complete the questionnaire, a total of 60 students responded as of April 30, 2010, a response rate of 33.3%. One student only partially completed the survey; however, the tool used to conduct the survey did not allow omission of the incomplete questionnaire. Of the 60 respondents, 48 (80.0%) were female and 34 (56.7%) were first-year students. Compared with their class demographics, female students were overrepresented and fourth-year students were underrepresented. Demographics of the respondents are shown in Table 1.

Respondents strongly agreed that it is important to have opportunities to advance one’s career (Table 2). Although more than half of students agreed that separating men and women into different areas of pharmacy practice has negative consequences for women, only 8 respondents (13.3%) agreed that gender segregation exists in pharmacy. While 57.7% of fourth-year students agreed that women generally choose to work in staff positions rather than management positions, just 20.6% of first-year students agreed with this statement. Similarly, 65.4% of fourth-year students agreed that women are underrepresented in pharmacy management positions compared with 23.5% of first-year students. More fourth-year students than first-year students agreed that men and women in pharmacy receive equal pay

TABLE 2 Selected statements and students' responses

Statement	No. (%) of respondents*			Mean score**
	Agree	Neutral	Disagree	
Having opportunities to advance in my career is important.	58 (96.7)	1 (1.7)	1 (1.7)	4.52*
In general, men and women work in different areas of pharmacy practice (i.e., men work in management; women work in staff positions).	8 (13.3)	17 (28.3)	35 (58.3)	2.48
Separation of men and women into different areas of pharmacy practice has negative consequences for women.	31 (51.7)	16 (26.7)	13 (21.7)	3.32
In general, women in pharmacy choose to work in staff positions rather than management positions.	22 (36.7)	24 (40.0)	14 (23.3)	3.17
First year (<i>n</i> = 34)	7 (20.6)	17 (50.0)	10 (29.4)	2.91
Fourth year (<i>n</i> = 26)	15 (57.7)	7 (26.9)	4 (15.4)	3.50
Women are underrepresented in pharmacy management positions.	25 (41.7)	26 (43.3)	9 (15.0)	3.28
First year (<i>n</i> = 34)	8 (23.5)	17 (50.0)	9 (26.5)	2.97
Fourth year (<i>n</i> = 26)	17 (65.4)	9 (34.6)	0 (0.0)	3.69
Men and women in pharmacy receive equal pay for equal work.	39 (65.0)	14 (23.3)	7 (11.7)	3.70
First year (<i>n</i> = 34)	18 (52.9)	10 (2.4)	6 (17.6)	3.59
Fourth year (<i>n</i> = 26)	21 (80.8)	4 (15.4)	1 (3.8)	3.84
Men and women in pharmacy receive equal pay for equal worth.	26 (43.3)	23 (38.3)	11 (18.3)	3.30
First year (<i>n</i> = 34)	12 (35.3)	16 (47.1)	6 (17.6)	3.26
Fourth year (<i>n</i> = 26)	14 (53.8)	7 (26.9)	5 (19.2)	3.35
Men and women have an equal opportunity to advance to management positions in pharmacy.	33 (55.0)	14 (23.3)	13 (21.7)	3.35
Patient care skills can be learned; therefore both men and women in pharmacy have the potential to perform patient care activities equally well.	52 (86.7)	5 (8.3)	3 (5.0)	4.08
Management skills can be learned; therefore both men and women in pharmacy have the potential to perform management activities equally well.	59 (98.3)	1 (1.7)	0 (0.0)	4.28
In general, women have natural qualities (e.g., empathy, communication skills) which make them better suited to patient care activities than men.	17 (28.3)	12 (20.0)	31 (51.7)	2.72
Male (<i>n</i> = 12)	3 (25.0)	1 (8.3)	8 (66.7)	2.50
Female (<i>n</i> = 48)	14 (29.2)	11 (22.9)	23 (47.9)	2.77

TABLE 2 (continued)

Statement	No. (%) of respondents*			Mean score**
	Agree	Neutral	Disagree	
There is a smaller proportion of men in pharmacy today because there are fewer opportunities for independent ownership.	7 (11.9)	12 (20.3)	40 (67.8)	2.44
Male (<i>n</i> = 11)	2 (18.2)	2 (18.2)	7 (63.6)	2.45
Female (<i>n</i> = 48)	5 (10.4)	10 (20.8)	33 (68.8)	2.44
To date, the increased proportion of women in pharmacy has reduced the status of pharmacy as a profession. (<i>n</i> = 59)	5 (8.5)	2 (3.4)	52 (88.1)	1.86
Male (<i>n</i> = 11)	1 (9.1)	0 (0.0)	10 (90.9)	1.73
Female (<i>n</i> = 48)	4 (8.3)	2 (4.2)	42 (87.5)	1.90
In the future, continued increases in the proportion of women in pharmacy will decrease the status of the profession. (<i>n</i> = 59)	4 (6.8)	3 (5.1)	52 (88.1)	1.83
Male (<i>n</i> = 11)	0 (0.0)	0 (0.0)	11 (100.0)	1.55
Female (<i>n</i> = 48)	4 (8.3)	3 (6.3)	41 (85.4)	1.90
To date, the increased proportion of women in pharmacy has had a negative effect on pharmacists' salaries.	4 (6.7)	17 (28.3)	39 (65.0)	2.37
A continued increase in the proportion of women in pharmacy will have a negative effect on pharmacists' salaries.	4 (6.7)	15 (25.0)	41 (68.3)	2.28
It is important that the profession maintain a significant proportion of male practitioners. (<i>n</i> = 59)	40 (67.8)	10 (17.0)	9 (15.3)	3.56

*Number of respondents was 60, except where indicated.

**All responses were assigned a number value on a 5-point Likert scale; a response of *strongly disagree* was assigned a score of 1 and *strongly agree* a score of 5. A mean score of ≤ 2 indicates respondents strongly disagree with the statement, while a mean score of ≥ 4 indicates respondents strongly agree with the statement.

for equal work (80.8% and 52.9%, respectively). More fourth-year students also agreed that men and women in pharmacy receive equal pay for equal worth (53.8% and 35.3%, respectively). One fourth-year student commented that she had not seen a wage gap between the male and female students who had signed contracts with future employers. More than half of students (55.0%) agreed that men and women have an equal opportunity to advance to management positions in pharmacy.

The majority of respondents agreed that both patient care skills and management skills can be learned and, consequently, men and women have the potential to perform these tasks equally well (86.7% and 98.3%, respectively). More male

students than female students disagreed that women have natural qualities such as empathy and communication skills that make women more suited to patient care activities than men (66.7% of males compared with 47.9% of females). Students did not attribute the smaller proportion of men in pharmacy to declining entrepreneurial opportunities; 67.8% of students disagreed that there are fewer men in pharmacy today because there are fewer opportunities for independent ownership. Instead, students suggested that the disproportionate number of men in pharmacy is a natural consequence of the underrepresentation of male students in universities. Some students also felt that female students are more academically successful and

are more likely to be accepted into a pharmacy program.

Fifty-two respondents (88.1%) disagreed that the increased proportion of women in pharmacy has reduced the status of pharmacy as a profession, and as many respondents disagreed that continued increases in the proportion of women will reduce the status of pharmacy in the future. Students also disagreed that the increase in women in pharmacy has had or will have a negative effect on pharmacists' salaries. Still, 67.8% of students agreed it is important that the profession maintain a significant proportion of male practitioners.

Student comments

Several students commented that the statements in the survey implied stereotypical gender roles that are obsolete in contemporary society. Students also conveyed a staunch belief that all employees should be treated equally; some students expressed concerns about employers preferentially accommodating female pharmacists over male pharmacists. Similar concerns were expressed regarding pharmacists with children receiving fringe benefits without those benefits also being extended to pharmacists without children. Some students communicated a belief that gender plays a lesser role in influencing work setting and employment status than other factors such as individual choices:

I am a woman and have no desire to be a manager and it has nothing to do with being a [woman]. I do not want all the headache and stress that come with being in management.—
Fourth-year female student

A number of students also suggested that management positions should be filled by the best-qualified applicant and gender should have no influence:

I believe that both men and women should have equal opportunity to access any position, but that there should not be a certain "quota" for each. There should be no special consideration for either gender, since there is so much more to people than their gender.—*First-year female student*

Three general opinions surfaced when students were asked to comment on other issues that may arise from the increasing proportion of women in pharmacy. Students indicated that

having greater numbers of female pharmacists will result in more pharmacists taking maternity leave. Second, some female students noted that potential changes in the public's perception of pharmacy as a female-dominated profession may prevent men from entering into pharmacy in the future. Finally, a number of first-year students suggested that pharmacy practice is being minimally affected by the increasing number of women in pharmacy. They highlighted the same standards for entry into practice for male and female pharmacy students and the equality of practising male and female pharmacists:

I don't really think there are issues with the rise in female representation in pharmacy. As long as competent pharmacists are produced by the pharmacy colleges, competent pharmacists will be practising pharmacy. That's what is important.—*First-year male student*

There will be no issues arising from an increased proportion of women in the profession. Pharmacy adapts and changes according to what patients need and it doesn't matter if the practising pharmacist is male or female — they should all be performing to the same level.—*First-year female student*

Discussion

There were major discrepancies between the attitudes and beliefs of pharmacy students about women in pharmacy and the status of female pharmacists as reported in the literature^{1-10,12-14,16,22,23}; students were largely oblivious to the gender disparity in pharmacy. Given that more fourth-year students than first-year students agreed that women are overrepresented in staff positions and underrepresented in management, fourth-year students appear to be more aware of gender segregation in pharmacy. Perhaps the fourth-year students, having had more exposure to pharmacy literature and more experience in a pharmacy workplace, were more likely to see subtle differences between women and men in pharmacy. Furthermore, fourth-year students may have been more likely to notice the gender disparity in the workplace because of their anticipated entry into pharmacy practice. In particular, female students who have spent several years in university might be contemplating starting a family; these students may have been more likely to discern

the challenges facing female pharmacists trying to balance a family with a career. Contrary to this idea, however, more fourth-year students agreed that men and women receive equal pay for equal work and equal worth. Some fourth-year students' recent experiences of signing contracts may have superseded any prior knowledge of a gender disparity in pharmacist wages. Alternatively, students may have felt that a salary gap is not due to an inherent gender inequality in pharmacy but is the result of the personal choices women make.

Despite a prevailing belief that the increasing proportion of women does not affect the status of pharmacy or the salaries of pharmacists, students agreed it is important to maintain some male presence in pharmacy. This reflects the importance of increasing diversity in pharmacy and other health care professions, as benefits to diversity include greater patient access to care, improved patient satisfaction, greater provider-patient communication and better education experiences for students in health professions.²⁷

The proportion of women is also increasing in many other formerly male-dominated professions, including medicine.^{28,29} As in pharmacy, female physicians tend to have different work patterns (fewer hours per week, more frequent leaves) than their male counterparts and to gravitate towards the less prestigious, lower paid areas within their field, such as family practice. There are also similar concerns in the literature about the potential effect of a higher proportion of women on leadership and status of the medical profession.^{28,29} On the positive side, it is proposed that more women in medicine will enhance the quality of patient care and improve the work-family balance in practitioners' lives; similar changes in pharmacy practice have been attributed in part to the increase in the number of women in pharmacy. Common patterns and concerns in professional practices appear to arise with feminization regardless of the profession involved; students in these professions should be aware of women's issues in their respective fields.

Limitations

The demographic profile of the respondents varied somewhat from the demographic profile of the students invited to participate; female students were overrepresented and fourth-year students underrepresented in the respondents. Consequently, the results of this survey may not accurately reflect the true attitudes and beliefs of Saskatchewan pharmacy students. A greater interest in women's issues among female students may offer some explanation for the overrepresentation of female students in this survey. In contrast, male students may have declined to participate because they felt issues arising from the increased proportion of women in pharmacy are not relevant to them.

Although respondents were assured their responses would be anonymous, the sensitive nature of this issue may have impelled students to give socially acceptable responses instead of expressing their true opinions.

There has been no follow-up survey to determine if students' awareness of women's issues in pharmacy has increased since completing the questionnaire. Whether this secondary objective was met may become clear when the students are resurveyed.

Conclusion

This study was able to identify attitudes and beliefs of pharmacy undergraduates related to the increased proportion of females in the pharmacy workforce and subsequent impact on the profession. Results from the survey, in contrast to available pharmacy literature,^{1-10,12-16,22,23} reveal that pharmacy students do not believe there is significant disparity between genders with regard to employment positions, promotion opportunities or wages. As the majority of pharmacists and pharmacy graduates in Canada are women, any impact a primarily female workforce has on the pharmacy profession will be longstanding. For this reason, pharmacy educators and preceptors should resolve to raise awareness of women's issues among students in pharmacy. ■

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