

Influence of Classroom and Clinical Experience on the Ethical Decisions Made by Doctor of Pharmacy Students

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An abstract of this work was presented at the American College of Clinical Pharmacy Spring Practice and Research Forum in Savannah, GA, April 9, 2002.

Abstract

Purpose: Ethical decisions made by doctor of pharmacy students following classroom discussion and clerkship experience were compared.

Methods: From 1996 to 2001, students were presented five cases describing ethical dilemmas and asked whether a pharmacist should dispense medications for assisted suicide, sedate an unruly patient, recommend treatment to allow parole, ration drugs, or resign their position for making an error. Anonymous questionnaires assessed reactions (yes, no, don't know) at three study phases. Phase 1 preceded and phase 2 followed classroom debate. Phase 3 followed 45 weeks of clerkship training. Responses were analyzed by Chi-square (χ^2) method.

Results: The study included 112 students [median (range) age = 23 (22 - 46) years; 60 % females]. Responses were similar for all cases, except parole and drug rationing ($p < 0.05$). Responses in phases 1 and 2 ($n = 65$) were different from phase 3 ($n = 39$) for the parole case ($p < 0.01$). Trends observed for the parole and drug rationing cases suggest that students adopted a more patient-oriented approach following clerkship.

Conclusion: Classroom and clerkship experience did not significantly impact the ethical decisions of pharmacy students.

Key Words: pharmacy education; ethics; clerkship

Introduction

The role of the pharmacist continues to be increasingly patient-focused. There are many potential benefits of this transition for patients and pharmacists. However, pharmacists are more likely to experience ethical dilemmas. As a result, there is an ever growing need to prepare pharmacy students to make ethical decisions.[1,2]

The importance of ethics in pharmacy education has received considerable attention.[1-10] Past studies have examined the development of ethical behaviors in pharmacy students.[3,4] One study compared students' attitudes toward ethical dilemmas with those of practicing pharmacists. The authors concluded that students have a less defined professional ethical system, which may be due to a lack of pharmacy practice experience. They recommended that further studies be done to document the ethical growth and development of pharmacy students.[3]

Other authors have suggested that future studies longitudinally evaluate the influence of pharmaceutical education and training on the moral development and ethical behavior of students.[4] Furthermore, it has also been suggested that ethics education should include both theoretical and practical components.[1,2,9,10] However, no studies have been published

Published in:

The International Journal of Pharmacy Education
Spring 2003, Issue 1

documenting the relative effects of theoretical and practical experience on the ethical decisions made by pharmacy students.

The purpose of this study is to describe a novel method for teaching ethics to doctor of pharmacy students. This study was implemented as a pilot study to compare the ethical decisions made by students before and after classroom discussion and again after completion of their clerkship experiential training.

Methods

This longitudinal, observational study was performed in conjunction with a unique ethics teaching methodology. The ethics class was taught as part of a required course during the fifth year of the six-year doctor of pharmacy degree. The ethics class was also taught to the first year of the two-year post-baccalaureate doctor of pharmacy degree programs at Albany College of Pharmacy (Albany, NY). Participating students were presented with a series of five previously published cases which describe the following ethical dilemmas for a pharmacist.

1. Assisted suicide.[11]
2. Asking a pharmacist to resign for making an error.[12]
3. Sedation of an unruly patient.[13]
4. Rationing of high-cost drugs.[14]
5. Recommendation for treatment that would allow parole.[15]

An anonymous questionnaire, used to assess students' reactions, presented case-specific questions to which students should answer "yes", "no", or "don't know" (e.g., Should a pharmacist dispense medications knowing they are intended for assisted suicide?). The questionnaire was administered at three study phases. A summary of each of the cases and the accompanying post-case questions is contained in Appendix A.

Phase 1 of the study occurred at the beginning of the ethics class and consisted of a brief lecture on the ethical principles of autonomy (informed consent), beneficence, non-maleficence, and justice.[16] Subsequently, students were asked to read the aforementioned cases individually and respond to the questionnaire without any classroom discussion. Students recorded and submitted their answers for each case.

During phase 2, the class was evenly divided into two groups. Each case was then openly discussed with one group arbitrarily assigned to argue in favor of the action suggested in the case scenario. Alternatively, the other group was instructed to argue against the suggested action. Students were instructed to use the above ethical principles to develop and defend their responses. Following this group discussion, students were asked to reevaluate their individual responses and anonymously resubmit answers to the post-case questions. At this time, the pre- and post-discussion results were shared in class to generate further classroom discussion.

Phase 3 of the study was performed approximately two years later, after students had completed 45 weeks of experiential clerkship training. Just prior to or soon after graduation, students were mailed the same cases along with the post-case questionnaire. They were again asked to respond to the corresponding questions. Response to this survey was voluntary and anonymous. Surveyed students/graduates were asked to reply to the questionnaire within two weeks. After four weeks had elapsed from the time of mailing, all students were sent a reminder postcard. Replies were accepted up to eight weeks from the initial mailing. As an incentive to respond, students were also sent a raffle entry, which they could return with their survey response. To maintain the anonymity of responses, a secretary separated raffle entries from survey responses prior to forwarding them to the investigators. Four raffle winners received a sweatshirt bearing the college logo.

Published in:
The International Journal of Pharmacy Education
Spring 2003, Issue 1

Responses to questions for each study phase were analyzed using the Chi-square (χ^2) statistic with significance based *a priori* upon $\alpha = 0.05$. The χ^2 method simply determines if a difference exists among the responses observed at each study phase. To identify exactly where any differences might be (e.g., phase 1 vs. phase 2; phase 2 vs. phase 3; or phase 1 vs. phase 3), multiple-comparisons were performed using the Bonferroni inequality. The Bonferroni inequality is a standard multiple-comparison method in which p-values are adjusted based on the number of comparisons made.[17] Statistics were performed using Microsoft® Excel 2000 (version SR-1, Microsoft, U.S.A.).

Results

Between August 1996 and November 2001, a total of 112 students participated in the study. All students participated in phases 1 and 2. However, phases 1 and 2 responses were not retrievable for the graduating class of 2001. As a result, phases 1 and 2 responses were available for 65 students. Phase 3 questionnaires were mailed to all students, except the class of 2000. Of the 89 surveys mailed, 39 (43.8% response rate) were returned completed. A breakdown of the number of participants and responses received at each phase, as well as demographic data, is listed in Table 1.

Table 1. Number of survey responses for each participating class year at each study phase. Demographic data is also given for the entire group (n = 112).

Graduating class of	1998	1999	2000	2001	Totals
Class size (# students)	21	24	20	47	112
Phase 1 (# responses)	21	24	20	0	65
Phase 2 (# responses)	21	24	20	0	65
Phase 3 (# responses)	12	14	0	13	39
Age [median (range)]					23 (22 – 46) years
Male / Female (%)					40/60

Student responses for each of the cases at each study phase are illustrated in Figures 1 - 5.

Overall, there were no statistically significant differences observed for the cases concerning assisted suicide ($p = 0.056$; Figure 1), asking a pharmacist to resign for making an error ($p = 0.52$; Figure 2), or sedation of an unruly patient ($p = 0.063$; Figure 3). Regarding the rationing of high-cost drugs, there was an overall statistically significant difference ($p = 0.045$; Figure 4). However, multiple comparisons did not identify significant differences between specific study phases for this case. A statistically significant difference, overall, was observed for the case involving hormonal treatment that would allow parole ($p = 0.00$; Figure 5). Statistically significant differences were also observed between each study phase for this case ($p < 0.05$).

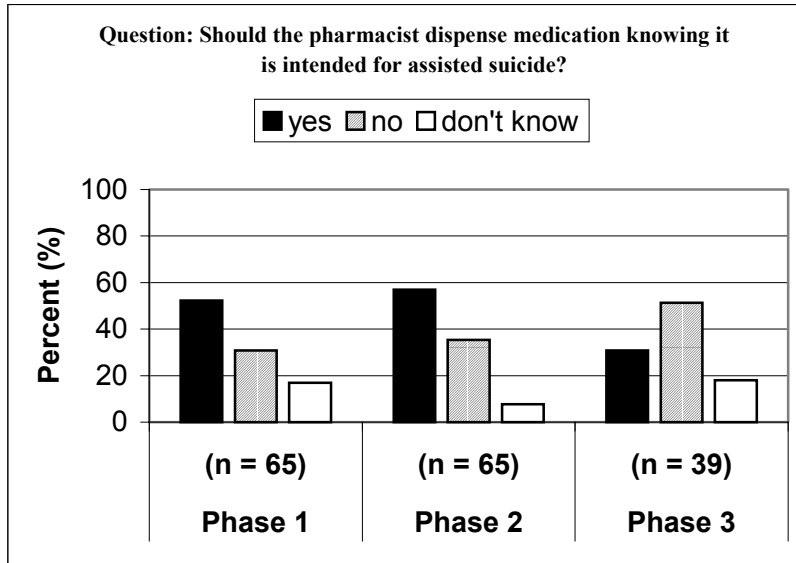


Figure 1. Student responses to question about assisted suicide (Case 1). Overall, $p = 0.056$

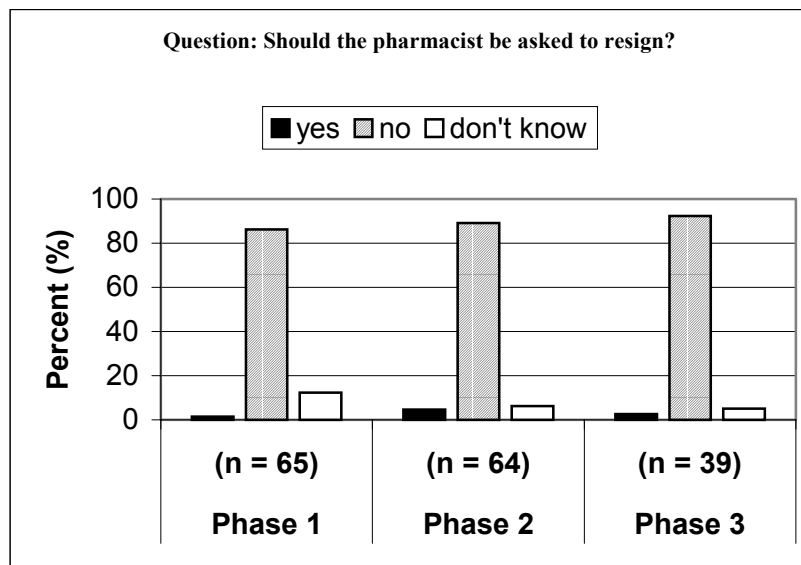


Figure 2. Student responses about asking a pharmacist to resign (Case 2). Overall, $p = 0.52$

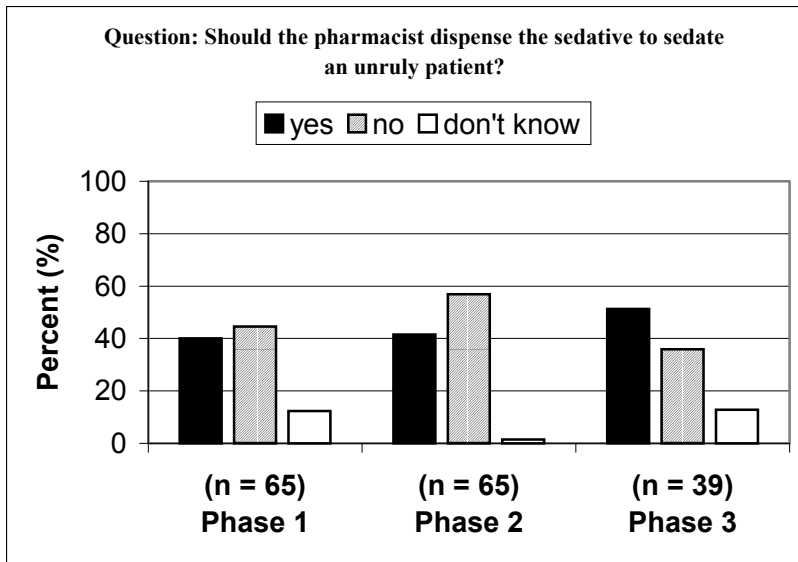


Figure 3. Student responses about sedation of an unruly patient (Case 3). Overall, $p = 0.063$

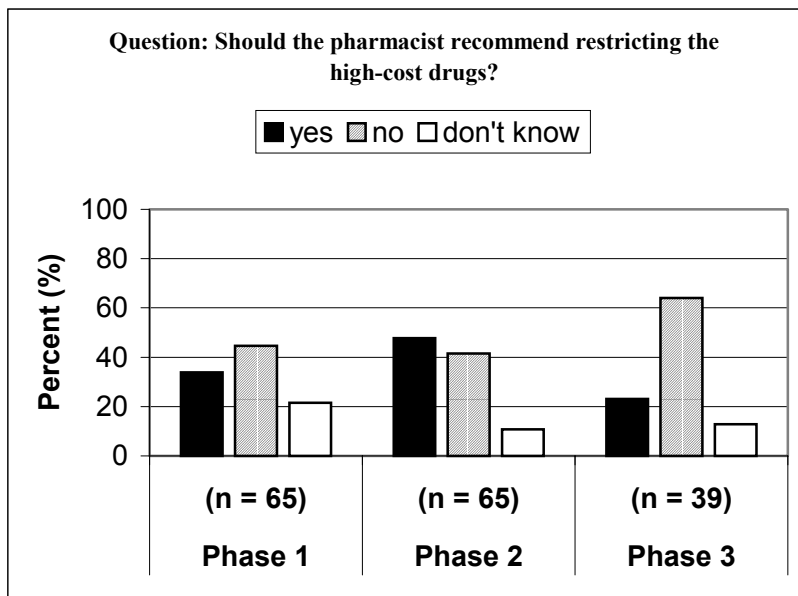


Figure 4. Student responses about restricting high-cost drugs (Case 4). Overall, $p = 0.045$

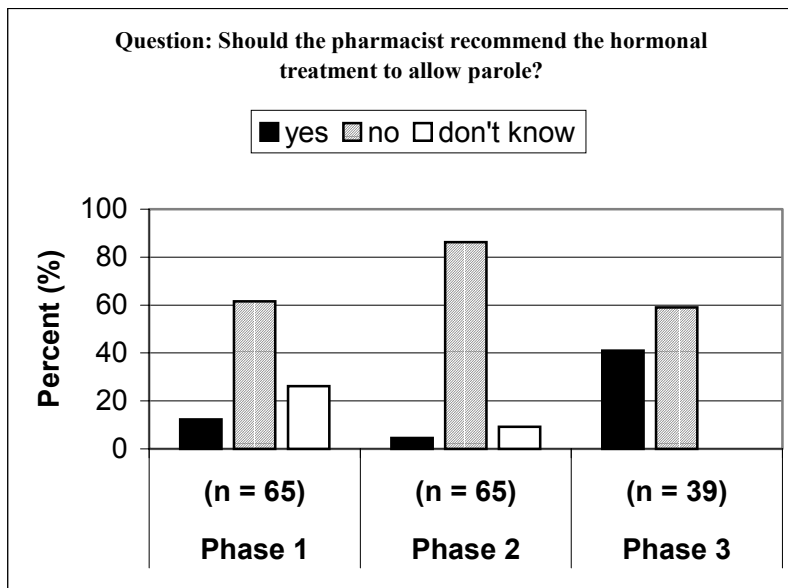


Figure 5. Student responses about medication to permit parole (Case 5). Overall, $p = 0.000$

Discussion

Overall, the results of our study indicate that classroom discussion (phases 1 and 2) and practical experience (phase 3) did not have a significant effect on the ethical decisions made by pharmacy students. Statistically significant differences were only observed for two of five cases. And of those, specific inter-phase differences were only found for a single case. Although we consider these to be pilot data and more rigorous study is needed, we have made some generalizations based upon the responses observed.

The cases involving parole and drug rationing presented dilemmas where a pharmacist has to weigh the benefits to the patient in comparison with risks or costs to society. The responses observed in phases 1 were similar to phase 2 for each of these cases. At phase 3 there was a large increase in the number of students who would recommend the treatment to allow parole, as well as in the number that would not recommend restricting the use of expensive drugs. These changes may reflect a shift from a societal preference in the classroom to a more patient-oriented approach following clerkship. Students also appeared to become more decisive regarding the parole case, as a trend toward fewer "don't know" responses were observed.

The results for the assisted suicide, sedation, and resignation cases are more difficult to interpret. Again, responses were virtually identical at phases 1 and 2. However, at phase 3 fewer students were willing to dispense a lethal dose of medication to the terminally ill patient. In contrast, more students would dispense the sedative for the unruly patient at phase 3. For both cases, one could argue whether or not the majority of responses are patient-focused. Additionally, experience did not appear to make students more decisive regarding these issues. The number of "don't know" responses for both cases was greatest at phase 3. Regarding the request for a pharmacist's resignation, students overwhelmingly responded "no" (the pharmacist should not be asked to resign) at every study phase.

Limitations

Interpretation of these results is difficult and requires consideration of important limitations in our study design. Foremost, we employed a non-validated assessment tool incapable of determining

the ethical appropriateness of a given response. That is, because there are no "correct" answers to the post-case questions, whether students became more or less ethical could not be answered by our study. Additionally, any phase 3 observations cannot be considered the result of clerkship training alone. There is currently no consistent, well-designed, deliberate approach to teaching our students ethics during clerkship. Furthermore, factors such as life experiences and normal maturation are likely to contribute to the students' ethical development during the two years separating phases 2 and 3.

A final consideration is our sample size, which was fairly small, particularly in phase 3 (n = 39). Given that p-values were generally low and trends were observed, a larger sample might have yielded significant results.

Acknowledging these limitations, we simply sought to determine if there were noticeable changes in the ethical decisions made by students at different points in their education. Although we have concluded that classroom and clerkship experiences did not impact the ethical decisions made by pharmacy students, we believe that they should. As stated previously, our curriculum does not currently provide a deliberate and consistent ethical component to the clerkship experience. After a review of ethics literature in medicine and pharmacy, Goodman-Snitkoff found that pharmacy schools lag considerably behind medical schools in the integration of ethics into the curriculum. Additionally, medical schools were found to use a more patient-oriented approach to teaching ethics.[18] We believe a patient-oriented, clerkship-based approach could enhance ethics education and is worthy of further study. We are currently making efforts to more effectively design and study alternative approaches to ethics education during clerkship, and throughout the pharmacy curriculum.

Conclusion

Classroom discussion and experiential clerkship training did not have a significant impact on the ethical decisions made by pharmacy students. To enhance the ethical development of pharmacy students, a practical clerkship-based approach to ethics education is suggested.

APPENDIX A. Abbreviated Ethics Cases

1. "Physician-assisted suicide and the issue it raises for pharmacists" [15]

A terminally ill cancer patient wishes to "get this over with." The physician orders a lethal dose of morphine sulfate. *Question: Should the pharmacist dispense the medication knowing it is to be used for assisted suicide?*

2. "Asking a pharmacist to resign for making an error" [11]

A model pharmacist accidentally dispensed an IV dose of chemotherapy to the wrong patient. That patient was terminally ill, but died sooner as a result of the error. The pharmacist is devastated, but she does not feel compelled to resign. The attorneys and administrators at the hospital tell the pharmacy director to make her resign. *Question: Should the director request the pharmacist's resignation?*

3. "Sedation of an unruly patient" [12]

A homeless man is admitted to the hospital for frostbite. He is incoherent and shouting at passers by. Other patients complain about the noise, but he is posing no physical danger to himself or others. An intern orders an intravenous sedative. *Question: Should the pharmacist dispense the sedative?*

4. "Clinical and ethical perspectives on rationing of high-cost drugs" [14]
A known IV drug abuser with AIDS is anemic, neutropenic, oliguric, and in septic shock. He has no financial means, but is receiving many expensive medications and hemodialysis. The physician suggests that the monies being spent would be better used to treat patients with curable diseases and asks the pharmacist for her opinion. *Question: Should the pharmacist recommend restricting the high-cost drugs?*
5. "Recommendation for treatment that would allow parole" [13]
A man infected with the human immunodeficiency virus is serving a prison term for rape and child molestation. If a psychiatrist determines that his sex drive can be controlled, he will be eligible for parole. Weekly hormonal injections would accomplish this and could be made a condition of the parole. However, the pharmacist knows that the man cannot pay for the treatments and there is no mechanism for him to get them free of charge. *Question: Should the pharmacist recommend the hormonal treatment?*

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Published in:

The International Journal of Pharmacy Education
Spring 2003, Issue 1

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