



Pre and Post Assessment of a Contraceptive Prescribing Activity for Pharmacy Students

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OBJECTIVE

Assess the utility of a simulated contraceptive prescribing activity for pharmacy students on student confidence and opinions

BACKGROUND

- Several state and federal laws have been proposed or passed that increase the pharmacist's role in hormonal contraceptive access.¹
- While there are specific guidelines for the pharmacist to follow, prescribing is an entirely new area for most pharmacists.
- Literature shows that pharmacy students are open to the idea of prescribing,^{2,3} however training programs on this subject are uncommon.
- Simulation activities can address gaps in clinical learning⁴ and creates a controlled environment that allows for practicing specific scenarios such as contraceptive prescribing.
- Standardized patients (SP) portray patients in a realistic fashion that can target student communication and intervention skills.

METHODS

- Included students: Pharmacy students enrolled in a women's health elective in 2017 and 2018 (data from two years)
- Pre-survey was electronically administered prior to topic introduction. Students coded their surveys in order to match pre and post surveys.
- In class lecture** which introduced:
 - Current legislation related to pharmacist prescribing of hormonal contraceptives
 - The protocols in place in various states allowing pharmacist prescribing of contraception
 - Brief review of hormonal contraceptive therapeutics
- Students completed **patient cases** in class to practice utilizing one of the available prescribing algorithms
- Students attended the **clinical skills center (CSC) activity**:
 - Interviewed an SP
 - Utilized a prescribing algorithm
 - Recommended a contraceptive option
- Post-survey was electronically administered
- Pre- and post- survey results were analyzed and compared

RESULTS

Figure 1: Past or Current Work Experience
N= 44, N (%)

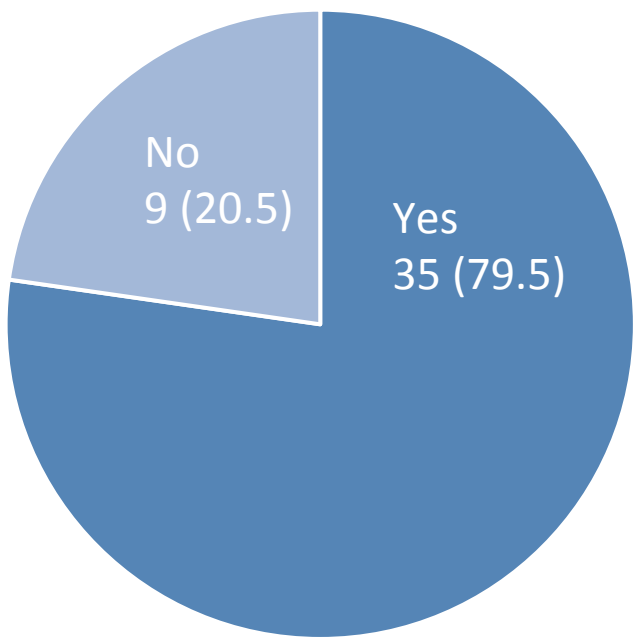


Figure 2: Planned Practice after Graduation
N= 44

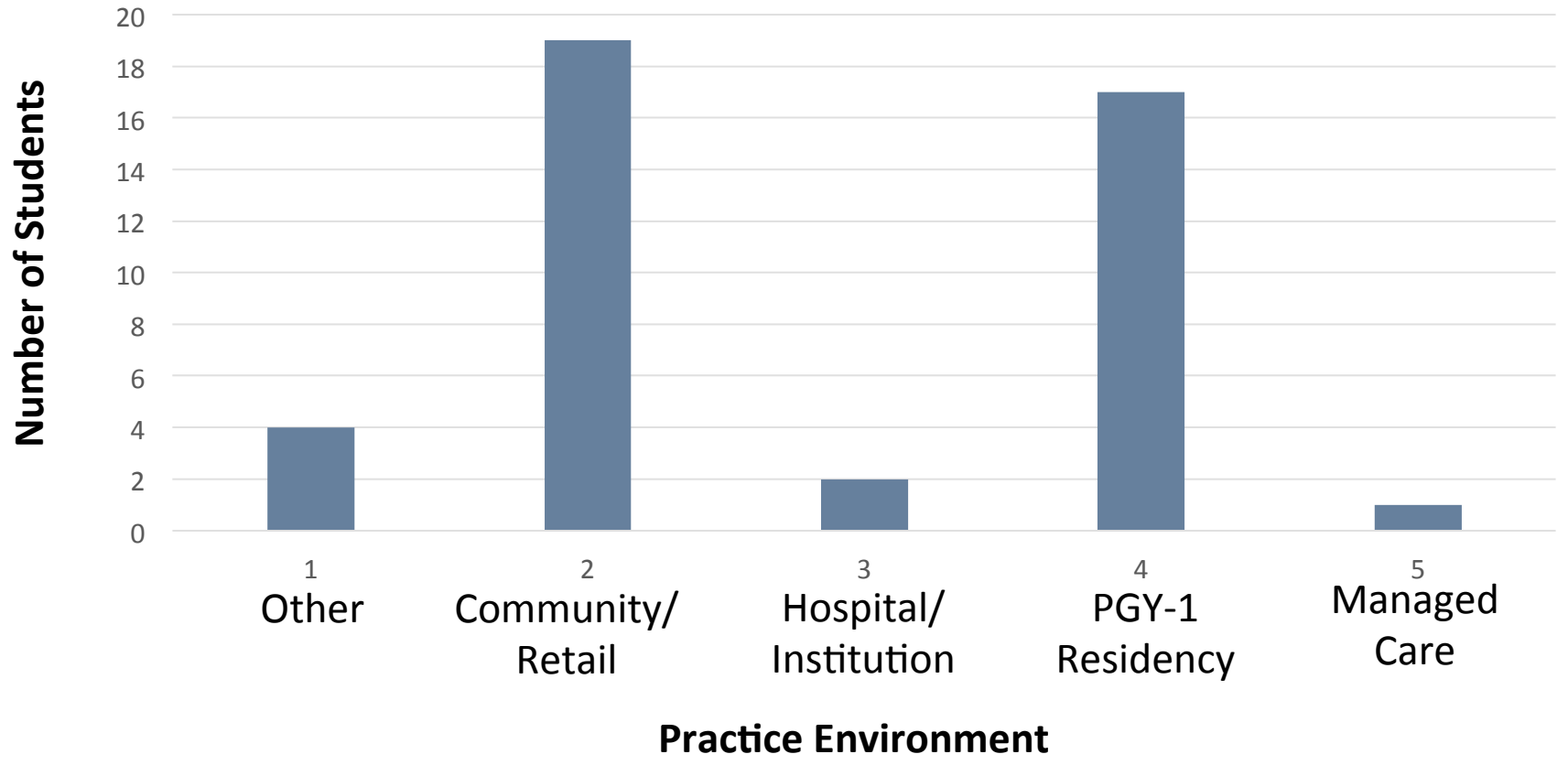


Table 1: Student Opinions of Simulation Activity
N=25, N (%)

Rate your agreement on the following:	5 = Strongly Agree	4 = Agree	3 = Neither Agree or Disagree	2 = Disagree	1 = Strongly Disagree
The simulation was challenging	2 (8)	18 (72)	1 (4)	3 (12)	1 (4)
The simulation was realistic	9 (36)	13 (52)	2 (8)	1 (4)	0 (0)
The pharmacist protocol/algorithm was easy to follow	12 (48)	11 (44)	2 (8)	0 (0)	0 (0)
This activity was valuable in preparing me to practice as a licensed pharmacist	14 (56)	10 (40)	1 (4)	0 (0)	0 (0)
This activity made me more confident in my ability prescribe hormonal contraceptives	11 (44)	11 (44)	3 (12)	0 (0)	0 (0)

Table 2: Pre and Post Survey, Matched
N=25

Category	Mean		SD		t	p
	Pre	Post	Pre	Post		
Hormonal Contraceptive Prescribing practices are within the pharmacist's scope of practice	4.32	4.68	.988	.476	-1.809	.083
Pharmacists are well trained and educated to initiate prescriptions and the related counseling on hormonal contraceptives	4.08	4.44	1.222	.870	-1.809	.083
Pharmacist-initiated hormonal contraception would be a valuable resource for many patients	4.76	4.76	.523	.436	.000	1.000
Patients will benefit from improved access and advice about hormonal contraception from pharmacists	4.84	4.76	.374	.436	.811	.425
Pharmacist-initiated hormonal contraception may foster increased use, patient convenience and adherence and thus increase the effectiveness of contraception	4.76	4.76	.436	.436	.000	1.000
Provision of hormonal contraception by pharmacist prescription will result in added liability for the pharmacist	3.96	4.04	1.136	1.098	-.327	.746
Provision of hormonal contraception by pharmacist prescription will result in significant or unreasonable burden for the pharmacist	2.84	3.00	1.214	1.443	-.679	.504
I am comfortable evaluating a patient and recommending a specific hormonal contraceptive product per protocol	3.72	4.32	1.061	.627	-2.521	.019*
I am comfortable recognizing when a patient needs to be referred to another healthcare provider for contraception access per protocol	3.96	4.40	.978	.707	-1.963	.061
Hormonal contraception available as an over-the-counter product (similar to ibuprofen availability) is a safe and effective option for patients	3.04	2.88	1.306	1.424	.517	.610

*p=.05 or less
5 = strongly agree, 4 = agree, 3 = neither agree or disagree, 2 = disagree, 1 = strongly disagree

DISCUSSION

- Student opinions of the simulation activity:
 - The majority of students agreed/strongly agreed that the simulation was realistic and challenging.
 - The majority of students agreed/strongly agreed that the protocol/algorithm was easy to follow. Not all states use or require an algorithm, however this may indicate a strength in using an algorithm.
 - The majority of pharmacy students agreed/strongly agreed that the activity was valuable to their future practice and made them more confident in their ability to prescribe contraceptives.
- Student opinions about hormonal contraceptive prescribing:
 - The pre survey means related to opinions of contraceptive prescribing were high, and the intervention did not significantly change these opinions.
 - The only significant change occurred in response to “I am comfortable evaluating a patient and recommending a specific hormonal contraceptive product per protocol” (3.72 vs. 4.32, p=0.19)
- Study Limitations:
 - Small sample size
 - Completed at one school of pharmacy
 - Matched results not available for all study participants

CONCLUSION

- This activity was a realistic way for students to practice evaluation of patients for hormonal contraceptive use.
- The intervention did not significantly change the opinions related to contraceptive prescribing of this student population.
- Student comfort in their ability to prescribe contraceptives increased significantly after completing the activity, which suggests that the active learning technique of standardized patients should be utilized as a way to prepare pharmacists for expanded practice roles such as prescribing.

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