RESEARCH

Preceptors' Self-Assessment of Their Ability to Perform the Learning Objectives of an Experiential Program

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Objective. To evaluate preceptors' perception of their ability to perform the Structured Practical Experiences in Pharmacy (SPEP) learning objectives through a self-assessment activity.

Methods. A self-assessment instrument consisting of 28 learning objectives associated with clinic, community, and hospital pharmacy practice experiences were developed. Preceptors rated their performance ability for each of the learning objectives using a 3-point Likert scale.

Results. Of the 116 preceptors, 89 (77%) completed the self-assessment survey instrument. The overall preceptor responses to the items on performance of the 28 SPEP learning objectives ranged from good to excellent. Years of experience, practice experience setting, and involvement as a SPEP or SPEP and PharmD preceptor had no influence on their self-reported capabilities.

Conclusion. Most preceptors rated their ability to perform the learning objectives for the structured practical experiences in pharmacy as high. Competency areas requiring further preceptor development were identified.

Keywords: preceptor, experiential education, preceptor development

INTRODUCTION

Qatar is a small country located in the Middle East that is rich in oil and natural gas. The population of Qatar is mainly comprised of expatriates from Arab nations, the Indian subcontinent, and Southeast Asia.¹ The College of Pharmacy at Qatar University, established in 2007, recently received full accreditation by the Canadian Council for Accreditation of Pharmacy Programs (CCAPP) and is the first and only pharmacy school in Qatar. The college has 3 degree programs: the bachelor of science in pharmacy (BScPharm), the doctor of pharmacy (PharmD), and the master of science (MScPharm) in pharmaceutical sciences. As part of the CCAPP standards for the baccalaureate pharmacy degree program, experiential training must be a component of the pharmacy curriculum and should be of adequate depth to ensure the educational competencies are achieved prior to graduation. These practice experiences should offer students the opportunity to provide direct patient care to a diverse patient population in various pharmacy settings.² To fulfill and maintain the CCAPP accreditation standards, the college launched the Structured Practical Experiences in Pharmacy (SPEP) Program in June 2009 to integrate

CCAPP recommendations into the development of practice experiences for undergraduate baccalaureate students.

Qatar University College of Pharmacy students are required to complete 6 SPEP practice experiences throughout the 4-year baccalaureate curriculum. Each SPEP practice experience is 4 weeks in duration with 160 hours of practice experience. The first and second SPEP practice experiences occur during the summer of the second and third years, respectively. The remaining 4 SPEP practice experiences occur during the fall semester of the final year. Students must complete 2 hospital, 2 community, and 1 clinic practice experience. The last SPEP practice experience is an elective in which students have the opportunity to select a pharmacy practice setting of their choice. By the end of the 6 SPEP practice experiences, students have completed the 960 hours of experiential training required for graduation.

As preceptors are the backbone of experiential programs, pharmacy preceptors should not only be equipped with the knowledge and skills related to their area of practice, but must be equally effective in their mentoring and teaching skills. Preceptors must possess attributes consistent with effective mentorship, empathy, and respect, as well as professionalism towards patients and other healthcare professionals.^{3,4} As pharmacy colleges and schools rely heavily on pharmacy preceptors for the education of pharmacy students in a practice environment,

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the quality of the experience provided by these individuals is of great importance.

The pharmacy preceptors for the College of Pharmacy at Qatar University are nominated by pharmacy directors and pharmacy managers at various pharmacy settings. The nominees must be licensed pharmacists in Qatar, have the willingness and desire to precept students, and be involved in continuous professional development. Potential applicants are required to submit an application and curriculum vitae and attend a preceptor training session to be initially approved as a pharmacy preceptor. Pharmacy preceptors are expected to renew their status on a yearly basis with the college. The requirements for renewal include attending an annual preceptor development session, having a minimum of 6 student contact days within an academic year, and completing 4 continuing professional development events. Preceptors are granted access to Qatar University library resources and are recognized annually at a preceptor appreciation dinner. Individual preceptors are not compensated for their involvement in the experiential training of pharmacy students. However, each SPEP practice experience site receives a small stipend from the college to be used towards pharmacy professional development activities.

Most of the pharmacy preceptors approved by the college have never served as a pharmacy preceptor to undergraduate students before or received formal training as a pharmacy preceptor prior to their approval. Many of these preceptors have graduated from pharmacy colleges or schools where the experiential component of the curriculum was not in existence or may not have been coordinated by the college or school. For the few who had an undergraduate practicum experience, the training may not have been structured or may not have included a trained pharmacy preceptor.⁵ Regardless of their undergraduate experiences, most preceptors have provided on-the-job training for pharmacists in their countries of origin and/or in Qatar. Thus, a formal preceptor training workshop was developed by the SPEP Coordinator prior to the start of the first SPEP practice experience in June 2009.

Because students learn by example, it is important for preceptors to be model pharmacists who are able to perform the SPEP learning objectives in a competent and confident manner. Preceptors are responsible for working closely with students to ensure the SPEP learning objectives are achieved by the end of each practice experience. For preceptors to become effective mentors, a thorough understanding and ability to actually perform these learning objectives at the level of a competent pharmacist are essential. Without this understanding, difficulty will arise

in successfully evaluating the performance of the student during the practice experience.

The basic principles of the pharmacy practice experience must be well understood by preceptors before attempts are made to assess the mentoring skills of the preceptors. Therefore, preceptors should have a greater understanding of their current practice performance relevant to their pharmacy setting. The objective of this project was to evaluate the preceptor's perception of their ability to actually perform the SPEP learning objectives through a self-assessment activity. This process becomes vital for preceptors as they engage in continuous preceptor developmental activities.

METHODS

The SPEP learning objectives were constructed from the National Association of Pharmacy Regulatory Authorities (NAPRA) Professional Competencies for Canadian Pharmacists at Entry to Practice. These learning objectives encompass the 7 NAPRA competency domains (patient care, professional collaboration and teamwork, ethical, legal and professional responsibilities, drug, therapeutic and practice information, communication and education, drug distribution, and management knowledge and skills) and have been tailored to the practice in Qatar as well as to the practice in each pharmacy experiential training site.⁶

During the initial pharmacy preceptor training session, preceptors were given a SPEP preceptor manual that provided an overview of the SPEP Program at Qatar University College of Pharmacy. The manual also included practice experience-specific learning objectives relevant to their practice setting. Preceptors were provided the opportunity to review and become familiar with these learning objectives during the initial preceptor training session and during the practice experience site visit by the college's SPEP coordinator in advance of the start of the first SPEP practice experience.

A self-assessment instrument was developed to evaluate the preceptor's perception on their capability to perform practice experience-specific learning objectives of the SPEP program. This survey instrument consisted of 28 learning objectives that were common to the clinic, community, and hospital pharmacy practice experiences. Preceptors were asked to rate anonymously their performance ability using best practice standards for each of the learning objectives on a 3-point Likert scale with responses defined as 1=poor, 2=good, and 3=excellent. The survey instrument was administered to the preceptors during a preceptor development session held in November 2011. At the time of this workshop, preceptors had already been involved in a minimum of 1 to a

maximum of 4 SPEP practice experiences for that academic year.

Data were analyzed using SPSS, version 19 (SPSS Inc., Chicago IL). The preceptor characteristics (practice experience site, pharmacy degree, country of pharmacy graduation, years of practice experience, and involvement as a SPEP or SPEP and PharmD preceptor) were analyzed using descriptive statistics and reported as numbers and percentages. The preceptor responses were reported as median scores and interquartile ranges. The Kruskal-Wallis test was used to compare the preceptor responses to the years of practice experience and the pharmacy practice experience site. The Mann-Whitney U test was used to compare the preceptor responses with the preceptor's involvement as a SPEP or SPEP and PharmD preceptor. Approval to conduct this study was granted by the Qatar University Investigational Review Board.

RESULTS

For the second SPEP cycle of the 2011 academic year, 116 pharmacists were approved as Qatar University College of Pharmacy preceptors, with the majority having participated in 1 previous SPEP cycle. Eighty-nine preceptors (77% response rate) completed the self-assessment survey instrument. Over half of the preceptors were involved in hospital practice experiences, with equal numbers involved in community and clinic pharmacy practice experiences (Table 1). The majority of preceptors had a BScPharm degree, and a small percentage had either

a MScPharm or PharmD degree. Seventy-nine percent of survey respondents were involved in the experiential training of undergraduate BScPharm students as SPEP preceptors, while 21% precepted both BScPharm and PharmD students. Figure 1 illustrates the country of pharmacy graduation by practice experience site. Most hospital, community, and clinic preceptors received their pharmacy education in Egypt or Jordan. Additionally, many community preceptors graduated from India and the Philippines, while most clinic preceptors received their pharmacy degrees from Syria and South Africa.

The preceptors' self-assessment ratings are reported in Table 2. The SPEP learning objectives are categorized according to the associated NAPRA competencies with a range of 1 to 7 learning objectives for each competency. The majority of preceptors perceived their ability to perform the learning objectives related to ethical, legal, and professional responsibilities; professional collaboration and teamwork; and drug distribution competencies as good to excellent. Thirteen to 48 (14.6% to 54.5%) preceptors rated themselves as good and 37 to 76 (42% to 85.4%) rated themselves as excellent in demonstrating a commitment to lifelong learning, maintaining awareness of emerging patient care issues, behaving in an ethical manner, and demonstrating respect for patients and other healthcare personnel. For the learning objectives related to the drug distribution competency, no poor responses were observed except for identifying drug diversion and drug misuse in the pharmacy, for which 3 (3.4%) preceptors rated themselves poorly.

For the learning objectives associated with patient care, drug, therapeutic and practice information, communication and education, and management knowledge and skills, lower performance levels were reported compared to the other competencies. Among the learning objectives related to the patient care competency, 12 (14.3%) preceptors assessed themselves as poor at recommending prescription and nonprescription medications, 11 (12.5%) were poor at determining treatment goals and follow-up plans for patients, and 10 (11.5%) were poor at developing a therapeutic plan. Ten (11.4%) respondents also were poor at providing education to a group of patients and providers and 16 (17%) at applying pharmacoeconomic policies to practice.

When comparing the learning objectives with the preceptor's years of practice experience, conducting patient interviews and developing a professional relationship with a patient were the only 2 (7%) values considered to be significant ($p < 0.05$). Five (18%) of the 28 learning objectives (those associated with patient care, drug distribution, and management knowledge and skills competencies) differed significantly based on practice experience

Table 1. Characteristics of Pharmacy Preceptors in Qatar

Variables	Number (%)
Practice site	
Hospital	50 (56)
Community	20 (22)
Clinic	19 (21)
Years of experience	
0-5	9 (10)
6-10	26 (29)
11-15	28 (31)
16-20	9 (10)
> 20	17 (19)
Pharmacy degree	
BScPharm	78 (88)
MScPharm	6 (7)
PharmD	5 (6)
Preceptor involvement	
SPEP preceptor	70 (79)
SPEP and PharmD preceptor	19 (21)

Abbreviations: BScPharm = bachelor of science in pharmacy; MScPharm = master of science in pharmacy; PharmD = doctor of pharmacy; SPEP = structured practical experiences in pharmacy

Figure 1. Preceptor's country of pharmacy graduation by practice site.

site ($p < 0.05$) (Table 3). Hospital and clinic pharmacy preceptors were more likely than were community pharmacists to evaluate themselves as excellent in performing a medication history, whereas community preceptors were more likely to assess themselves as excellent in recommending prescription and nonprescription medications. Four (14%) learning objectives, mainly associated with patient care competency, differed significantly based on whether a preceptor was a SPEP or SPEP and PharmD preceptor ($p < 0.05$) (Table 4). SPEP and PharmD preceptors tended to self-evaluate themselves as excellent in performing a medication history, in determining goals of therapy and follow up, and in developing a therapeutic plan for the patient, compared with SPEP preceptors, who rated themselves as good for these learning objectives.

DISCUSSION

Preceptors' reported their overall ability to perform the 28 SPEP learning objectives using best practice principles as good to excellent. Lower performance scores observed for patient care competency may be related to the job functions of pharmacists in a particular area of practice. For example, in the clinic and hospital pharmacy settings, recommending prescription and nonprescription medications are not tasks routinely performed by these pharmacists as all medications dispensed from these practice areas require a prescription. Similarly, many hospital and clinic preceptors are involved in traditional dispensing roles, with only a small percentage (16%) participating in direct patient care activities, which would allow them to contribute to developing treatment goals and care plans for patients. Unlike the community pharmacies in Qatar where all medications are available without a prescription with the exception of antibiotics, steroids, and a few controlled medications, community

pharmacists are allowed to prescribe medications, develop treatment plans, and offer follow-up care/consultations with patients.

For the learning objectives related to drug information and providing education to a group of patients or healthcare providers, 15% of community pharmacy preceptors rated themselves as poor compared to other preceptors. An explanation for this may be related to the limited interaction community pharmacists have with healthcare providers, as well as to societal perceptions of the pharmacist being a dispenser of medications rather than a source of drug information. A study looking at the public's view of community pharmacies in Qatar found 50% of the public rated their physician as the primary source of drug information and 45% trusted the drug information provided by the physician over the pharmacist.⁷ In addition, many community pharmacy preceptors graduated from countries where the focus is predominately on the business of pharmacy rather than the practice of pharmacy. This may have influenced these pharmacists' responses. On the other hand, 55% of community pharmacy preceptors rated their ability to provide drug information as good. Based on current community practice in Qatar, the extent as to how accurate these perceptions are related to the learning objectives will need further investigation.

Years of practice experience, the practice experience practice site, and preceptor status did not have an overall influence on preceptors' responses. However, those who functioned as SPEP and PharmD preceptors self-rated their abilities to perform learning objectives associated with patient care higher than those who were only SPEP preceptors, which suggests that SPEP and PharmD preceptors may be more comfortable with direct patient care activities because of their additional training.

Table 2. Self-Assessment Scores of Preceptors (n = 89)

Competency and Objectives	Preceptors Choosing This Response, No. (%)		
	Poor	Good	Excellent
NAPRPA Competency 1: Patient Care			
Conduct patient interview	4 (4.5)	20 (22.5)	65 (73)
Develop a professional relationship with the patient	2 (2.2)	23 (25.8)	64 (71.9)
Assess medication adherence ^a	0	40 (46)	47 (55)
Counsel patients on medications	3 (3.4)	29 (32.6)	57 (64)
Perform medication history ^a	3 (3.5)	37 (43.5)	45 (52.9)
Recommend prescription/nonprescription medications ^a	12 (14.3)	31 (36.9)	41 (48.8)
Recommend alternate medications when an interaction or allergy is present ^a	1 (1.2)	36 (41.9)	49 (57)
Identify and prioritize drug related problems	5 (5.7)	42 (47.7)	41 (46.6)
Determine appropriate monitoring parameter and therapeutic endpoints for medications ^a	4 (4.5)	53 (60.2)	31 (35.2)
Consider non-pharmacological therapy, therapeutic lifestyle changes, and preventive care issues in a plan for a patient	7 (7.9)	33 (37.1)	49 (55.1)
Determine treatment goals and follow up plan for patients ^a	11 (12.5)	45 (51.1)	32 (36.4)
Develop and support the implementation of a therapeutic plan ^a	10 (11.5)	45 (51.7)	32 (36.8)
NAPRPA Competency 2: Professional Collaboration & Teamwork			
Interact and communicate with health professionals ^a	2 (2.3)	25 (28.4)	61 (69.3)
NAPRPA Competency 3: Ethical, Legal and Professional Responsibilities			
Demonstrate a commitment to lifelong learning ^a	3 (3.6)	39 (47)	41 (49.4)
Maintain awareness of issues that impact patient care ^a	3 (3.4)	48 (54.5)	37 (42)
Behave in an ethical manner	1 (1.1)	17 (19.1)	71 (79.8)
Demonstrate respect for patients and healthcare personnel	0	13 (14.6)	76 (85.4)
NAPRPA Competency 4: Drug, Therapeutic and Practice Information			
Recognize pharmacy abbreviations and medical terminology ^a	0	31 (35.2)	57 (64.8)
Provide drug information to health providers ^a	5 (5.8)	45 (52.3)	36 (41.9)
Utilize references to answer drug information questions ^a	1 (1.2)	31 (36)	54 (62.8)
NAPRPA Competency 5: Communication and Education			
Provide education to a patients or healthcare providers ^a	10 (11.4)	42 (47.7)	36 (40.9)
NAPRPA Competency 6: Drug Distribution			
Interpret and review a prescription for appropriateness of drug, route, dose, quantity, drug interactions, duplication, duration, allergies, patient specific conditions, and cost effectiveness	0	20 (22.5)	69 (77.5)
Describe the process for assuring accuracy in processing prescriptions ^a	0	30 (34.1)	58 (65.9)
Explain the process to assure the work accuracy of pharmacy support personnel ^a	0	34 (39.1)	53 (60.9)
Identify drug diversion and drug misuse in the pharmacy ^a	3 (3.4)	38 (43.7)	46 (52.9)
NAPRPA Competency 7: Management Knowledge and Skills			
Apply pharmacoeconomic policies ^a	16 (17)	46 (52.3)	27 (30.7)
Understand regulatory procedures for pharmacy operation ^a	5 (5.7)	42 (47.7)	41 (46.6)
Be familiar with inventory control ^a	6 (6.9)	36 (41.4)	45 (51.7)

^a not all learning objectives were rated by the preceptors

The practicing pharmacists in Qatar have received their pharmacy degrees from various countries. With many overseas pharmacy degrees, the State of Qatar currently has no standardized process to deem the equivalence of these foreign degrees for practice in Qatar. The licensing

of pharmacists in Qatar is left up to the private and public pharmacy sectors to determine the requirements necessary for practice. In 2011, the State of Qatar developed its first professional competencies for practicing pharmacists. Qatar adopted the NAPRA Competencies and

Table 3. Median Scores and Interquartile Ranges of Preceptor Self-Assessments Scores Based on Practice Site

	Median Scores (IQR)			<i>P</i>
	Hospital (n=50)	Community (n=20)	Clinic (n=19)	
NAPRPA Competency 1: Patient Care				
Conduct patient interview	3 (3-3)	3 (2-3)	3 (2-3)	0.60
Develop a professional relationship	3 (2-3)	3 (3-3)	3 (2-3)	0.25
Assess medication adherence	3 (2-3)	3 (2-3)	2 (2-3)	0.65
Counsel patients on medications	3 (2-3)	2.5 (2-3)	3 (2-3)	0.41
Perform medication history	3 (2-3)	2 (2-2.75)	3 (2-3)	0.035 ^a
Recommend prescription/nonprescription medications	2 (2-3)	3 (2-3)	2.5 (2-3)	0.023 ^a
Recommend alternate medications when an interaction or allergy is present	3 (2-3)	3 (2-3)	3 (2-3)	1.0
Identify and prioritize drug related problems	3 (2-3)	2 (2-3)	2 (2-3)	0.36
Determine appropriate monitoring parameter and therapeutic endpoints for medications	2 (2-3)	2 (2-2)	2 (2-2)	0.018 ^a
Consider non-pharmacological therapy and preventive care issues	2.5 (2-3)	3 (2.25-3)	2 (2-3)	0.10
Determine treatment goals and follow up plan	2 (2-3)	2 (2-2.75)	2 (2-3)	0.60
Develop a therapeutic plan	2 (2-3)	2 (2-3)	2 (2-3)	0.80
NAPRPA Competency 2: Professional Collaboration & Teamwork				
Communicate with health professionals	3 (2-3)	3 (2-3)	3 (2-3)	0.44
NAPRPA Competency 3: Ethical, Legal and Professional Responsibilities				
Demonstrate a commitment to lifelong learning	3 (2-3)	3 (2-3)	2 (2-3)	0.42
Maintain awareness of patient care issues	2 (2-3)	2.5 (2-3)	2 (2-3)	0.43
Behave in an ethical manner	3 (2-3)	3 (3-3)	3 (3-3)	0.14
Demonstrate respect	3 (3-3)	3 (3-3)	3 (3-3)	0.38
NAPRPA Competency 4: Drug, Therapeutic and Practice Information				
Recognize pharmacy abbreviations	3 (2-3)	3 (2-3)	3 (2-3)	0.73
Provide drug information to health providers	2.5 (2-3)	2 (2-3)	2 (2-3)	0.12
Utilize references to answer drug questions	3 (2-3)	3 (2-3)	2 (2-3)	0.08
NAPRPA Competency 5: Communication and Education				
Provide education to patients or providers	2 (2-3)	3 (2-3)	2 (2-2)	0.27
NAPRPA Competency 6: Drug Distribution				
Review prescription for drug, route, dose, quantity, interactions, and duplication	3 (3-3)	3 (2-3)	3 (2-3)	0.024 ^a
Explain the process for prescription accuracy	3 (2-3)	3 (2-3)	3 (2-3)	1.0
Explain the process to assure the work accuracy of pharmacy support personnel	3 (2-3)	3 (2-3)	2 (2-3)	0.08
Identify drug diversion and misuse	3 (2-3)	3 (2-3)	2 (2-3)	0.37
NAPRPA Competency 7: Management Knowledge and Skills				
Apply pharmacoeconomic policies	2 (2-3)	2.5 (2-3)	2 (2-3)	0.12
Understand pharmacy regulatory procedures	2 (2-3)	3 (2-3)	3 (2-3)	0.036 ^a
Be familiar with inventory control	2 (2-2)	3 (2-3)	3 (1-3)	0.12

^a $p < 0.05$

has tailored them to meet the pharmacy practice requirements of the country.⁸ With the creation of the Qatar competencies, the Supreme Council of Health in Qatar is moving towards a standardized licensing process for all pharmacists, with plans for a knowledge-based

assessment to ensure competent pharmacists are placed in practice. This assessment becomes vital to pharmacy practice in this country as many pharmacists have received pharmacy education outside of Qatar. The pharmacy preceptors who will eventually go through this

Table 4. Preceptors' Self-assessment Scores Based on Preceptor Involvement

	Median (IQR)		
	SPEP Preceptor (n=70)	SPEP & PharmD Preceptor (n=19)	P
NAPRPA Competency 1: Patient Care			
Conduct patient interview	3 (2-3)	3 (3-3)	0.45
Develop a professional relationship with the patient	3 (2-3)	3 (2-3)	0.76
Assess medication adherence	3 (2-3)	3 (2-3)	0.70
Counsel patients on medications	3 (2-3)	3 (2-3)	0.58
Perform medication history	2 (2-3)	3 (3-3)	0.018 ^a
Recommend prescription/nonprescription medications	2 (2-3)	2.5 (2-3)	0.62
Recommend alternate medications when an interaction or allergy is present	3 (2-3)	3 (2-3)	0.51
Identify and prioritize drug related problems	2 (2-3)	3 (2-3)	0.08
Determine appropriate monitoring parameter and therapeutic endpoints for medications	2 (2-3)	3 (2-3)	0.05
Consider non-pharmacological therapy, therapeutic lifestyle changes, and preventive care issues in a plan for a patient	3 (2-3)	3 (2-3)	0.72
Determine treatment goals and appropriate follow up plan	2 (2-3)	3 (2-3)	0.037 ^a
Develop a therapeutic plan	2 (2-3)	3 (2-3)	0.033 ^a
NAPRPA Competency 2: Professional Collaboration & Teamwork			
Interact and communication with health professionals	3 (2-3)	3 (2-3)	1.0
NAPRPA Competency 3: Ethical, Legal and Professional Responsibilities			
Demonstrate a commitment to lifelong learning	2 (2-3)	3 (2-3)	0.63
Maintain awareness of issues that impact patient care	2 (2-3)	2 (2-3)	0.84
Behave in an ethical manner	3 (3-3)	3 (2-3)	0.18
Demonstrate respect	3 (3-3)	3 (2-3)	0.019 ^a
NAPRPA Competency 4: Drug, Therapeutic and Practice Information			
Recognize pharmacy abbreviations and medical terminology	3 (2-3)	3 (2-3)	0.71
Provide drug information to health providers	2 (2-3)	3 (2-3)	0.08
Utilize references to answer drug information questions	3 (2-3)	3 (2-3)	0.66
NAPRPA Competency 5: Communication and Education			
Provide education to a patients or healthcare providers	2 (2-3)	2 (2-3)	0.77
NAPRPA Competency 6: Drug Distribution			
Interpret and review a prescription for appropriateness of drug, route, dose, quantity, drug interactions, duplication, duration, allergies, patient specific conditions, and cost effectiveness	3 (3-3)	3 (2-3)	0.65
Describe the process for assuring prescription accuracy	3 (2-3)	3 (2-3)	0.80
Explain the process to assure the work accuracy of pharmacy support personnel	3 (2-3)	3 (2-3)	0.37
Identify drug diversion and drug misuse in the pharmacy	3 (2-3)	3 (2-3)	0.70
NAPRPA Competency 7: Management Knowledge and Skills			
Apply pharmacoeconomic policies	3 (2-3)	2 (2-3)	1.0
Understand regulatory procedures for pharmacy operation	3 (2-3)	2 (2-3)	0.07
Be familiar with inventory control	3 (2-3)	2 (2-2)	0.42

^a $p < 0.05$

standardized licensing procedure have an advantage over other practicing pharmacists because of their exposure to these competencies through the SPEP practice experiences. This exposure provides preceptors an opportunity to evaluate their skills and to seek continuing education programs for their professional development.

Preceptors are required to participate in self-directed, life-long learning not only to meet requirements set by the college, but for their own professional satisfaction. This study is the first of its kind to examine the initial stages of the continuing professional development process in Qatar. Pharmacists' self-assessment of their

achievement of the SPEP learning objectives is the first step towards preceptors being involved in the process of continuing professional development. According to the International Pharmaceutical Federation, continuing professional development is “the responsibility of individual pharmacists for systematic maintenance, development and broadening of knowledge, skills and attitudes, to ensure continuing competence as a professional, throughout their careers.”⁹ This initial stage of reflection allows preceptors to assess their knowledge, skills, and competence based on their area of practice. From this reflection, preceptors should design a plan to address the needs identified in the self-assessment phase, implement a plan, and evaluate the outcome of the plan to determine its effectiveness.¹⁰ As preceptors, this process of continuous professional development becomes crucial for the advancement of their own knowledge, but also for the enhancement of the knowledge and skills of the students they teach.

Most preceptors rated their commitment to lifelong learning as high, with only a small portion rating this objective low. Many preceptors may be aware of the concept or importance of self-directed lifelong learning, however, the extent of this practice actually performed by the preceptors has not been analyzed and further research in this area is needed.

A limitation of this study is that the participant's responses were a self-assessment of their ability to perform the SPEP learning objectives. There are many shortcomings with this type of assessment. One in particular is the perception of one's capabilities as displayed by the Dunning-Kruger effect where individual perceptions are inaccurate when it comes to estimating a person's own skills. Unskilled people are more inclined to exaggerate their level of performance and believe they are better than average.¹¹ As one study showed, pharmacy preceptors had a tendency to overestimate their skills related to teaching compared to student perceptions of their actual performance.¹² Likewise, these scores are based on preceptor perceptions and do not depict their actual level and quality of performance. The self-evaluation is not a validated measure of their competency. Therefore, a knowledge-based assessment, such as an objective structured clinical examination, would be a more useful tool to accurately assess their competencies.¹³

The findings of this study will be beneficial to the SPEP program as it is the first study to examine perceptions of pharmacy preceptors based on their ability to perform SPEP learning objectives in Qatar. This is an initial step in identifying the developmental needs of preceptors within an experiential program, especially in a country where the concept of being a trained pharmacy preceptor by a pharmacy program is novel. Many of the

SPEP preceptors do not have advanced degrees or residency training as required by many North American pharmacy programs. For this reason, a self-assessment activity of this kind may motivate preceptors to seek self-directed lifelong learning and possibly pursue advanced training opportunities. These results are based on perceptions, yet they become the foundation for designing preceptor workshops. Preceptor training programs are effective as long as they are tailored to meet preceptors' needs.¹⁴ This self-assessment survey instrument indirectly illustrates competencies that need enhancement to further enrich the skills of preceptors. For this reason, a preceptor development session will be created to address the needs of Qatar pharmacy preceptors. Furthermore, this is the first time many of the SPEP preceptors are teaching students in a structured learning environment. Therefore, an evaluation of their teaching will also be essential to ensure the quality of the practice experiences that students' receive. The key to a successful experiential training program is in its preceptors. As a result, investment in pharmacy preceptors by colleges and schools of pharmacy is important to ensure a high-quality learning environment for students.

CONCLUSION

This study found that a majority of preceptors assessed their ability to perform the SPEP learning objectives as high, suggesting that most of these preceptors have the basic understanding of the SPEP learning objectives needed to evaluate practice experience students. They consider themselves capable in the 7 NAPRA competency domains. The years of practice experience, practice experience setting, and involvement as a SPEP or SPEP and PharmD preceptor had no overall influence on preceptors' self-reported capabilities.

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