TEACHERS' TOPICS

An Interprofessional Psychiatric Advanced Pharmacy Practice Experience

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Objective. To create an interprofessional psychiatry advanced pharmacy practice experience (APPE) and assess the initial outcomes.

Design. An elective psychiatry APPE was developed in a setting of interdisciplinary practice. Preceptor responsibilities were shared between a psychiatric pharmacist and an attending psychiatrist or psychiatric nurse practitioner. Students were also given the opportunity to shadow and work with other health care professionals such as nurses, social workers, therapists, family nurse practitioners, and utilization review staff members.

Assessment. Midpoint and final evaluations demonstrated student advancement throughout the experience as well as the development of communication skills with patients and an increased ability to work collaboratively with other health care providers. Students rated this practice experience highly and their comments reflected achievement of the established learning objectives.

Conclusion. An interdisciplinary elective practice experience in psychiatry at a local teaching hospital was effective in teaching psychiatric care and interprofessional interaction. This teaching model can be adapted for use in other practice settings or specialty areas.

Keywords: interprofessional, experiential, psychiatry, advanced pharmacy practice experience

INTRODUCTION

The Accreditation Council for Pharmacy Education (ACPE) sets forth several professional competencies that pharmacy graduates are expected to achieve. One of these competencies emphasizes pharmacy graduates having the ability to provide care as part of an interprofessional team of individuals from a wide spectrum of disciplines who are involved in the care of patients.¹ This is also an outcome supported by the Center for the Advancement of Pharmacy Education,² the World Health Organization,³ and the Interprofessional Education Collaborative (IPEC). IPEC states in their report that the “goal of this interprofessional learning is to prepare all health professions students for deliberately working together with the common goal of building a safer and better patient-centered and community/population oriented US health care system.”⁴ The literature examining the value of interprofessional pharmacy education dates back nearly 35 years. However, the need for pharmacists who are trained to work as effective members of an interprofessional team has become even more critical in recent years as a result of passage of the Affordable Care

Act and emphasis on the patient-centered medical home model.

Some institutions have implemented interprofessional education courses to train pharmacy students and other health professions students how to work together as an interprofessional team.⁵ Simulation-based models, including the use of simulated inpatient rounds, have also been used with interprofessional teams of medical, nursing, pharmacy, and physician assistant students to improve attitudes, knowledge, and skills. Student attitudes toward interprofessional teamwork become more positive after receiving interprofessional training.^{6,7} Student understanding of the roles of interprofessional team members and the importance of communication has also been enhanced as a result of patient simulation.⁸ Although many of these approaches have been effective in improving students' attitudes, knowledge, skills, communication, and teamwork, some students believe that smaller experiences, which allow for closer teamwork with other providers and the opportunity for patient contact, would be more effective in improving their ability to collaborate with other health care professionals.⁹ Although many APPEs evaluate pharmacy students' experience with the health care team, interprofessional patient care experiences in which the pharmacy student is co-precepted by a nonpharmacist health professional have not been evaluated.

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Health science faculties believe in the concept of interprofessional care and are willing to engage in these activities.¹⁰ For this reason, the authors hypothesized that attending psychiatrists with faculty appointments at an academic medical center would be willing to co-precept pharmacy students completing a psychiatric practice experience at their clinical practice site. The authors also thought that pharmacy students would benefit from functioning as the pharmacy team member of an interprofessional team as it would allow them the opportunity to learn how to integrate with a team of predominantly non-pharmacy professionals as well as how to communicate effectively with all team members, including the patient.

Pharmacy students at The University of Arizona College of Pharmacy participated in 4 activities managed through the Interprofessional Education and Practice Program. This program includes students from all the health sciences colleges (including medicine, nursing, pharmacy and public health), as well as participation with the James E. Rogers College of Law, University of Arizona Department of Communication, the Campus Health Service, and

the Disabilities Resource Center.¹¹ While these valuable experiences introduce students to interprofessional patient care, they do not address the recommendation in the ACPE Standards Appendix C, which recommends that APPEs should include, “practicing as a member of an interprofessional team.”¹ This practice experience directly addresses that recommendation. The goal of this interprofessional practice experience was to train pharmacy students to become active, effective members of healthcare teams and positively impact patient care. This manuscript describes an elective interprofessional psychiatry APPE and initial outcomes.

DESIGN

The Psychopharmacology/Neurology APPE was offered to fourth-year students enrolled in the college’s doctor of pharmacy (PharmD) program. The objectives for this practice experience are listed in Table 1. The practice experience site was at The University of Arizona Medical Center – South Campus, which is an academic medical center within The University of Arizona Health Network

Table 1. Demonstration of how the APPE Elective Psychopharmacology/Neurology (Psychiatry) Practice Experience Learning Objectives Meet the 2004 Center for the Advancement of Pharmaceutical Education (CAPE) Educational Outcomes; the Core Competencies for Interprofessional Education Collaborative Practice (IPEC); and the Cognitive Domains of Bloom’s Taxonomy

Learning Objectives	CAPE ²	IPEC ⁴	Bloom’s Taxonomy
Conduct a patient interview and mental status examination	EO		Ap
Assess patients for the presence of substance abuse, addiction, noncompliance, and/or drug abuse	EO		E
Discuss the clinical use, pharmacokinetics, adverse effects, toxicity, and drug interactions of psychotropic medications	EO		K
Recommend or initiate the collection of laboratory data relevant to developing a pharmacotherapeutic plan	EO		E
Identify possible drug-induced abnormalities and develop a differential diagnosis and plan to support or rule out a drug-induced etiology for psychiatric illness	EO		An, S
Recognize potential drug-drug interactions with medications and recommend monitoring parameters, changes in pharmacotherapy, and alternative therapies to minimize adverse effects	EO		C, Ap
Identify the symptoms and diagnostic criteria for the most common psychiatric disorders	EO		K
Initiate, recommend, and/or monitor pharmacotherapy for major psychiatric disorders and recommend modifications in drug therapy based upon the patient’s presentation, target symptoms, progress, and adverse effects	EO		S, E
Discuss the pathophysiology, clinical diagnosis, and pharmacotherapy of psychiatric disorders	EO		K
Review and evaluate the literature as it applies to the patient with a psychiatric diagnosis	EO		C
Provide medication education to patients and/or their families	EO		C
Serve as an educational resource regarding medication therapy for staff and trainees working in the psychiatric setting	EO	CC	K, C
Serve as a member on an interprofessional health care team and provide pharmaceutical care service to selected patients under the supervision of a licensed pharmacist and psychiatrist or psychiatric nurse practitioner	EO	CC	K, Ap, C, S

Abbreviations: EO=meets education outcomes; CC=meets core competency; K=knowledge; Ap=application; E=evaluation; An=analysis; S=synthesis; C=comprehension.

and affiliated with The University of Arizona College of Pharmacy. There are 3 acute inpatient psychiatry units (2 adult units and 1 geriatric unit) with 62 beds at this facility. The primary preceptor for this practice experience was a psychiatric pharmacist who was a faculty member at the college and worked at the practice experience site for approximately 20 hours per week (usually 3 days per week) as part of her responsibilities. A trained psychotherapist, the preceptor also maintained licensure as a professional counselor as well as a pharmacist. Students were assigned by the primary preceptor to an attending psychiatrist or psychiatric nurse practitioner and his/her team on 1 of the 3 units. The attending psychiatrist or psychiatric nurse practitioner was a College of Medicine faculty member who was primarily located at the practice experience site. The students also interacted on a daily basis with other healthcare providers of the team as well as students from other disciplines (eg, medical and nursing students).

Students selected to complete either the adult or geriatric unit prior to the start of the practice experience. The duration of the practice experience was 6 weeks, with students obtaining an average of 228 hours (range, 200-263 hours) of experience during the practice experience block. Up to 3 students (1 per unit) were at the practice experience site at any given time. Twenty-one students completed the practice experience from June 2011 to December 2012. Prior to the beginning of the practice experience, students were strongly encouraged to review handouts from the psychiatric section of pharmacotherapeutics and were provided with a short list of references that would be useful for them during the practice experience. Students were expected to have basic knowledge regarding the use of pharmacotherapy for psychiatric disorders by their first day.

Several different learning experiences were designed to enhance each student's learning and take into account different learning styles. The student attended treatment team rounds with the pharmacist and co-facilitated a medication education group for patients 1 day per week. During the rest of the week, the pharmacy student spent the majority of his/her time with the attending psychiatrist and the other members of the team. In this capacity, the pharmacy student attended rounds with the team, visiting individual patients; answered medication-related questions; monitored pharmacotherapy, including therapeutic drug level monitoring; and made recommendations regarding pharmacotherapy. The pharmacy student also met with patients on an individual basis to provide medication education and to assess medication appropriateness, safety, effectiveness, and adherence. Additionally, the student served as a resource for other healthcare professionals on

the team (eg, registered nurse, social worker) and was encouraged to spend time shadowing these team members to learn their roles on the team and how pharmacists can work together with these team members to optimize patient care. Students typically spent between 10 and 15 hours per week with these team members and engaged in various learning experiences (Table 2). The actual amount of time spent with each discipline was determined by the needs of the patients as well as the interests of the student, resulting in some degree of variation in the experience for each student.

Regularly scheduled topic discussions with the pharmacy preceptor occurred in which the students were responsible for teaching the rest of the group (pharmacy students, pharmacy residents, and/or the pharmacy preceptor), in an interactive fashion, how to treat the identified psychiatric disorder. Topic discussions included, but were not limited to, the following: therapeutic drug level monitoring, adherence, schizophrenia, bipolar disorders, depressive disorders, anxiety disorders, behaviors associated with traumatic brain injury, behaviors associated with dementia, substance related and addictive disorders, pregnancy and lactation, other comorbid medical conditions, personality disorders, attention-deficit/hyperactivity disorder, and sleep disorders. As part of the topic discussion, students also presented patient cases with a specific disorder and discussed the role of the pharmacy member on the team in treating these patients. Other group members were encouraged to ask the presenter questions and make recommendations regarding the care of the patient. On days in which topic discussions were not held, students were responsible for submitting a SOAP (subjective, objective, assessment, plan) note to the pharmacy preceptor. The purpose of the SOAP note was to ensure that students understood their role in patient care by reviewing the content of the SOAP note and providing feedback. On a daily basis, students also documented the interventions they made with the various members of the team as well as patient encounters. All students were required to complete 1 project and 1 presentation during the course of the practice experience. The target audience, whenever possible, was healthcare providers other than pharmacists. The audience members included attending psychiatrists and psychiatric nurse practitioners, psychiatry residents, registered nurses, mental health technicians, art therapists, and social workers. The rationale of having pharmacy students present to healthcare professionals in other disciplines was for students to recognize the importance of diverse communication styles as well as the different levels of medication knowledge when working with non-pharmacy professionals.

Table 2. Pharmacy Student Learning Experiences With Ancillary Members of the Interprofessional Psychiatry Team

Ancillary Team Member	Pharmacy Student Learning Experiences
Family nurse practitioner	Assessing patients Using medications to treat non-psychiatric conditions in a patient with a psychiatric diagnosis
Registered nurse	Performing medication reconciliation Answering questions regarding medication administration Assessing patients including medication adverse effects
Art therapist	Presenting the basic psychopharmacology of medications commonly used on the units Learning the role of therapy in the treatment of psychiatric disorders Observing art therapy groups Participating in music therapy sessions
Social worker	Providing information related to patient assistance programs Determining outpatient medication coverage per individual patient insurance plans Presenting the psychopharmacology of medications commonly used on the units Clarifying terminology used to describe patients involved with the public mental health system Reviewing criteria for an acute inpatient psychiatric hospital admission
Mental health technician	Interacting effectively with acutely ill patients Obtaining vital signs from patients
Utilization review	Reviewing criteria for an acute inpatient psychiatric hospital admission Enrolling patients into patient assistance programs
Community mental health center liaison	Performing medication reconciliation Obtaining past medication histories Acquiring non-formulary atypical antipsychotic long-acting injectables for use prior to discharge

Although many, if not all, of these tasks were common to APPEs, a strong emphasis was placed on establishing positive working relationships with other providers and patients during the course of the practice experience as well as considering the case from the perspective of nonpharmacy providers. All team members were asked to provide periodic feedback regarding the pharmacy students' performance as part of the interprofessional team. Team members continuously provided positive feedback to students as well as constructive criticism regarding the perception of their interactions with providers and patients. The expectation upon completion of this practice experience was that students would be able to interact effectively with patients with psychiatric disorders and collaborate with other healthcare providers to provide a high standard of patient care in a team-based environment.

EVALUATION AND ASSESSMENT

Student evaluation was done with a midpoint and final student evaluation and recorded in RxPreceptor, (RxInsider, West Warwick, RI), a Web-based practice experience management system. This was accomplished with an 8-item instrument, the Collins-Gollon Advanced Pharmacy Practice Experience Student Evaluation, which was created through a College of Pharmacy student project at The University of Arizona in 2007. The tool evaluated knowledge/application, communication, self-management, and professionalism/ethics on a 5-point scale, and was

designed to promote conversations between preceptors and their students. The questions on the evaluation were general but provided prompts for exploring student accomplishment of the learning objectives. Factors considered when evaluating the student on this assessment included observation of student interaction with the healthcare team including the patients; level of participation and clinical judgment displayed during topic discussions; SOAP notes; quantity and quality of interventions performed with healthcare team members and patients; ability to consider all aspects of pharmacotherapy (appropriateness, safety, effectiveness, and adherence) for each patient; and feedback from the attending psychiatrist or psychiatric nurse practitioner, other healthcare team members, and patients. With both midpoint and final evaluations, the students were invited to self-reflect and engage in discussions regarding their performance. At the midpoint evaluation, the students were encouraged to set goals for themselves which were part of the assessment to determine their final grades. The average midpoint score for the 21 students who completed this practice experience between June 2011 and December 2012 was 79% and the average final score was 95.8%. For the evaluation question that assessed communication with patients, 20 out of 21 students showed improvement. For the evaluation questions that asked about student collaboration with other healthcare providers, 17 out of 21 students showed improvement. This improvement over the course of the

practice experience demonstrated the value of a midpoint evaluation and student advancement throughout the experience as well as the development of communication skills with patients and an increased ability to work collaboratively with other healthcare providers.

After completion of the practice experience, students were asked to evaluate both the practice experience/content of the practice experience and the preceptor/objectives on a 5-point scale ranging from disagree strongly to agree strongly. The criteria used in this evaluation of the preceptor and site are listed in Table 3. Students were also encouraged to add specific constructive comments regarding their practice experience. Example statements from this evaluation included: "I was paired with a psychiatrist and it was an extremely valuable experience." "Working with a nurse practitioner was a great opportunity to see the effects of medications and to encounter many different situations." "I also recognized

the need for interprofessional team building in such a dynamic population." "This promotes critical thinking and learning how to integrate oneself in a psychiatric health team." These evaluations were kept anonymous to the preceptor and released to the preceptor upon graduation of the student. For this practice experience, 18 students responded. The average score was 97 with a range of 78 to 100. In addition to the positive quantitative score, numerous students left positive feedback supporting this style of practice experience. The students clearly identified the importance of their role on a healthcare team and the value of their interactions.

DISCUSSION

This psychiatry APPE was effective in training pharmacy students to be competent in providing direct patient care services within the context of an interprofessional team. Pharmacists must be able to provide care as members of an interdisciplinary team, which includes all professionals trained in a wide spectrum of disciplines who are involved in the care of patients, including the patients themselves. Practice experience education provides an opportunity to model, teach, and practice healthcare as part of an interprofessional team. Additionally, psychiatric disorders are often multifaceted and patients can greatly benefit from a diverse healthcare team. The particular setting for this practice experience was supportive of interdisciplinary teams and included pharmacy. This proved to be a strength for this practice experience. However, in other sites and settings, practitioners may be less willing to collaborate. Additionally, the setting was a teaching hospital affiliated with the university. In other settings, nonpharmacy practitioners may not embrace the role of educator as well as practitioner. This may be a barrier to establishing a similar APPE course design in other practice sites.

Another strength of this particular practice experience was that the pharmacy preceptor had training and experience as a nonpharmacy member of the mental health interprofessional team, in this case, as a licensed master's level therapist. This allowed pharmacy students the opportunity to learn important skills that may not be emphasized in the PharmD curriculum, such as providing medication education to patients in a group setting and explaining accurately nonpharmacological interventions, including cognitive-behavioral therapy and dialectical behavior therapy, to patients. A preceptor who has training in another health professional discipline may also allow pharmacy students to gain additional perspective into the roles of other team members including their educational background, treatment focus, and the challenges they face in working with a particular population. It is not known whether there is a difference in terms of patient care or

Table 3. Criteria Used to Evaluate the Preceptor and Site

Practice Experience/Content

- Principles I learned on the practice experience should help in other pharmacy situations
- The practice experience helped me clarify previous course work
- The practice experience was helpful in developing and refining skills
- I developed or improved my ability to solve problems
- The practice experience was valuable
- The practice experience was interesting
- I have become more competent in this area because of the practice experience
- I was satisfied with my practice experience

Preceptor/Objectives

- Student responsibilities were defined for this practice experience
 - The expectations of this practice experience were well explained
 - The criteria used to define good performance were provided
 - The content of the practice experience was appropriate to the stated goals and objectives
 - The preceptor was available to students
 - The preceptor seemed interested in teaching
 - The preceptor incorporated current material into the practice experience
 - The preceptor demonstrated positive role model qualities
 - I received individual attention when I asked for it
 - The preceptor was helpful when I had questions
 - The preceptor encouraged independent thought and problem solving
 - I was given adequate feedback on my performance
 - My grade accurately reflected my performance and effort
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teaching effectiveness between pharmacists who have had previous careers in other healthcare professions vs those who have not. This may be a future research direction.

In preparing this manuscript, the authors reviewed the learning objectives for the course. These learning objectives were written by faculty members other than the current preceptor and did not fully reflect the interprofessional educational objectives. For future offerings of this practice experience, the authors plan to rewrite the learning objectives to more accurately reflect the team-based experiences and expectations for the course. Other plans to evaluate how this interprofessional practice experience impacts student beliefs regarding collaboration between nonpharmacist team members include administration of the Use of the Scale of Attitudes Toward Pharmacist-Physician Collaboration¹² to students both pre- and post-practice experience. This instrument, which can be used to assess the effectiveness of interprofessional educational experiences, has reliability and validity in assessing pharmacy students. Other considerations for future practice experiences will include increased involvement with nonprescriber members of the team as these interactions were not the primary focus of the practice experience.

SUMMARY

An elective psychiatry APPE provided pharmacy students with more than 200 hours' experience as a member of an interprofessional healthcare team that provided patient-centered care to inpatients on a psychiatric unit. Students were assigned to and worked directly with an attending psychiatrist or psychiatric nurse practitioner who worked primarily at the practice experience site. These types of experiences can and should be incorporated into practice settings at other institutions.

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