

Cases in Psychiatry: A description of a multi-campus elective course for pharmacy students

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Abstract

Cases in Psychiatry was a multi-campus elective course aimed to expand psychiatry knowledge beyond the required course curriculum. The format of the class included didactic course work, small group discussion of patient cases and article evaluation, submission of written notes, debates, and script concordance test questions delivered via a live online platform. Based on student assessment and feedback at the end of the course, the elective course was determined to meet the prespecified course objectives.

Keywords: psychiatric pharmacy elective, online platform, script concordance test

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Introduction

At least 20 schools or colleges of pharmacy in the United States have satellite campuses, and this number has increased in the past several years.^{1,2} Reasons for these parallel or sequential campuses include improved access to clinical resources located away from the main campus, retention or recruitment of pharmacists to particular areas of the state, and increased class size.¹ Benefits of a multi-campus institution include a greater number of student opportunities and experiences; access to hospitals and/or medical centers; the ability to serve rural or underserved areas; and access to partnerships, space, or funding.¹ Problems cited by multi-campus institutions include difficulties in distance education technology, effective intercampus communication, maintaining consistent quality of education between campuses, and acclimating students to a particular campus.¹

Students at the University of Georgia College of Pharmacy spend their first 2 years of the doctor of pharmacy curriculum on the main campus and the last 2 years on the

main campus or 1 of 3 satellite campuses (sequential campus). Courses are administered via a videoconferencing system, which accommodates many class sizes, instructional methods, and activities. Clinical faculty with a background in various specialties are based out of multiple campuses. In the current curriculum, students receive approximately 11 hours of education related to psychiatric topics. These hours are split between the second year (focusing on the drugs used in diseases) and the third year (in pharmacotherapy) and include the topics affective disorders (bipolar disorder and depression), schizophrenia, anxiety (panic and generalized), addiction, eating disorders, autism, and attention-deficit/hyperactivity disorder. As a comparison, examples of other topics in the same curriculum are allotted 29 hours for cardiology, 32 hours for infectious diseases, 15 hours for neurology, and 25 hours for hematology/oncology.

Cases in Psychiatry was developed to offer students the opportunity to review additional psychiatric illnesses and concepts, such as traumatic disorders, a wider spectrum of psychotic disorders, and issues in the transgender population, in greater depth while gaining elective course credit. The motivating factor in course creation was faculty interest with subsequent student interest; at least 4 students needed to be enrolled in order for the elective to be taught. The elective was based out of the Southwest Georgia campus and was offered to students at all 4

campuses. The elective was initially offered to third-year students in the fall 2015 semester and was pass/fail. The purpose of this article is to provide a description of a multi-campus elective course, offered by a sole faculty member located on a rural campus and designed to offer a more comprehensive overview of psychiatric illnesses.

Course Design and Description

Cases in Psychiatry was a 2-credit hour, 15-week, elective course, which aimed to expand psychiatry knowledge beyond that of the required course curriculum. The objectives of the course and class schedule are listed in Table 1. The course format included didactic coursework (limited to short presentations and selected readings), small group discussion of patient cases and article evaluation, and submission of written subjective, objective, assessment, and plan (SOAP) notes. Critical evaluation of selected landmark trials (eg, sequenced treatment alternatives to relieve depression [more commonly known as STAR*D], clinical antipsychotic trials for intervention effectiveness [CATIE], and systematic treatment enhancement program for bipolar disorder [STEP-BD]) was systematically discussed in the beginning of the semester to practice and improve on skills needed for the remainder of the course. Students were also provided with a literature evaluation rubric to help with systematic literature evaluation. Deidentified patient cases from the faculty's practice site (acute inpatient adult psychiatry) were used. Clinical controversies, such as the use of antidepressants in bipolar disorder, stimulants in a child whose parent is concerned about long-term impact on growth, and alcohol for alcohol withdrawal syndrome, were selected, and students were divided into teams to debate each side. Students prepared for class by reading preassigned journal articles or watching videos of patients exhibiting symptoms of various psychiatric illnesses, which could include both illnesses discussed inside and outside of the core curriculum.

At the beginning of each class, students debriefed about their preclass assignment and could ask for clarification, discuss their perceptions and reactions in response to questions by the faculty, and state key points they learned. Students were not graded or scored on their preparation for class although a student could be called on to share his or her opinions or interpretation. At the end of class, script concordance test (SCT) questions were asked, and students were polled. A brief description of the SCT can be found in the "Discussion" section, and several examples of SCT questions are listed in Table 2. Students passed the course if they accumulated a prespecified number of points. Points were obtained from submission of SOAP notes, participation in class activities/assignments, and an optional final exam composed of 75 SCT

questions. During the semester, systematic literature evaluation was completed 3 times; debates were held 4 times; and short didactic presentations, patient cases, and SCT questions were completed and discussed in almost all classes. All course activities and assessment types were repeated at least 3 times in order for students to become familiar and comfortable with the format. Class attendance was mandatory. Students were required to log into the online live classroom at prespecified class times.

The platform used was Blackboard Collaborate (BBC), selected for mobility, access, and convenience, for both students and the sole psychiatric faculty member teaching the course. This BBC platform has many features, including the ability to load PowerPoint presentations, use a white board, and polling. In addition to audio and visual capabilities (students and faculty could hear and see one another in real time), BBC allows a chat feature and students to "raise their hand." Additionally, this platform allowed for "breakout" classrooms, in which groups of students could discuss plans with their peers and collaborate on the white board in the room—useful for debates. As the fall 2015 semester was the first time the course was offered, 4 students enrolled at 3 campuses. Students learned about the course through course listings and could contact the course coordinator for additional information or the syllabus. All students interested in the course could enroll.

Course Assessment and Feedback

Students were asked to complete a survey to help gauge the usefulness of the course and help identify issues to improve the course for future students. Students rated course activities, including didactics, patient case discussions (SOAPs), debating clinical controversies, SCT questions, critical literature evaluation of landmark trials, and assigned preparation material for class in terms of the effectiveness on their understanding of psychiatric illnesses. Items were rated "ineffective," "somewhat ineffective," "unsure or neither," "somewhat effective," or "effective." For all components, all students rated somewhat effective and effective. The only item all students rated "effective" was the patient case discussions. Students were also asked to rate all the course objectives in terms of their confidence in their abilities using the rating scale: "not confident," "less confident," "no change," "more confident," and "confident." For the 6 objectives listed in Table 1, 2 students stated for each objective that they were "more confident" and "confident." All students felt that the electronic platform, BBC, was an effective way to deliver Cases in Psychiatry. Comments from students included that BBC "...made it easy to hear everyone and have a discussion in a more informal manner..." "...was extremely convenient and

TABLE 1: Course objectives and class schedule

Course Objectives			
By the end of this course, students should be able to			
1. List diagnostic criteria and describe the clinical presentation of psychiatric illnesses			
2. Determine appropriate and optimal therapy for individual psychiatrically ill patients based on patient-specific objective and subjective information as well application of evidence-based medicine			
3. Select relevant medical literature and describe principles of evidence-based medicine			
4. Formulate an appropriate plan, including safety and efficacy monitoring, for individual patients			
5. Write a detailed SOAP note that includes all relevant patient information and an appropriate assessment and plan			
6. Accept complexity, uncertainty, and ambiguity as a part of clinical practice			
Class Schedule ^a			
Class #	Topic	Class #	Topic
1	Introduction to cases in psychiatry Critical literature evaluation	9	Trauma-related disorders
2	Depressive disorders	10	Personality disorders
3	Bipolar disorder	11	Feeding/eating and elimination disorders
4	Mood disorders—debate	12	Neurodevelopmental disorders
5	Psychotic disorders	13	Neurodevelopmental disorders—debate
6	Psychotic disorders—debate	14	Transgender population
7	Substance misuse disorders	15	Optional final exam
8	Substance misuse disorders—debate		

SOAP = subjective, objective, assessment, and plan.

^aStudents were encouraged to suggest topics for inclusion into the schedule.

relatively easy to use...,” and that it was a “great alternative” to only offering the course to Southwest Georgia students. Problems that the students did encounter were related to connectivity issues and some physical space availabilities when the class was rescheduled. Students preferred to be on campus when logged into the online classroom, which could have posed a problem if a quiet space or room was not available. When asked to comment on activities or teaching methods that could be modified for future students, comments included that debates were beneficial because they allowed students to “research topics and really dig into evidence-based medicine...” and that patient cases were helpful as students were able to “talk out loud to determine the problem list and appropriate treatments.”

At the end of the course, a 25-case, 75-question SCT was also given to students. This exam was prespecified as optional; students could complete as much of the exam for additional points in order to pass the class. The exam was graded based on a tiered point system in which the best answer choice was given 1 point. Alternative options, including the second, third, and fourth best options, were given 0.75, 0.5, and 0.25 points, respectively. Not all questions had multiple answers with points awarded (eg, in some cases, there was only one correct answer choice). Three of the 4 students fully completed the exam. These

students earned 67.3%, 72.3%, and 76.0% on the exam. Regarding SCT questions on the survey, students enjoyed those because “...they were challenging and gave us a chance to explain our answers.”

One recommendation from a student was to make the didactic portion more interactive, such as including questions or short cases. Overall and based on multiple student feedback, students felt the course gave them the ability to utilize skills learned in other core courses, such as their drug information course (eg, with debates) as well as to explore a specialty area of their interest in an enjoyable and supportive learning environment. All students were noted to have participated during and attended all classes. Course assessments were used primarily for the internal assessment of course effectiveness. Students were not informed that data gathered from the course would be disseminated. The university’s institutional review board approval was obtained upon course completion in order to publish descriptions of the course.

Discussion

Course work and activities were selected to meet and support course objectives. For example, preparation materials and didactics were selected to teach students

TABLE 2: Sample script concordance questions^a

Case 4: D.E. is a patient who just purchased a brand new car impulsively and while manic. D.E. already has \$10 000 in credit card debt from spending during previous manic episodes.			
Your Initial Recommendation Is:	And You Find Out That the Patient:	Your Recommendation Is Now:	Your Answer:
Start lithium	Has hypertension and is on hydrochlorothiazide/ lisinopril	A. Absolutely indicated B. Somewhat indicated C. Neither indicated or contraindicated D. Somewhat contraindicated E. Absolutely contraindicated	
Start divalproex (valproate/valproic acid)	Gained 20 lbs on divalproex in the past but has failed all other antimanic agents	Options same as above	
Start aripiprazole	Has metabolic syndrome	Option same as above	
Case 5: E.F. is a 25-year-old man who hears the voice of his deceased mother and occasionally sees her in the room. He also believes a computer chip has been implanted in his brain. These symptoms have occurred for 1 year.			
Your Initial Recommendation Is:	And You Find Out That the Patient:	Your Recommendation Is Now:	Your Answer:
Initiate risperidone	Had gynecomastia with paliperidone long-acting injection previously	A. Absolutely indicated B. Somewhat indicated C. Neither indicated or contraindicated D. Somewhat contraindicated E. Absolutely contraindicated	
Initiate asenapine	Has a hard time following directions	Options same as above	
Initiate oral haloperidol	Has a history of medication nonadherence	Option same as above	

^aMinor editorial alterations have been made, otherwise content presented in original format.

about diagnosis and clinical presentation of various psychiatric illnesses, and patient case discussions and clinical debates were used to support objectives 2 through 5 (Table 1). Strengths of this elective included accessibility (of the course instructor and of the course itself) to students among different campuses without technology and communication barriers, evaluations showing that various course activities met prespecified course objectives, and feasibility of a special topics course administered by 1 faculty to several campuses, including from off-campus locations.

Because varying degrees of complexity, uncertainty, and ambiguity exist in clinical practice, SCT questions were also used as a tool to meet objective 6 and aid in assessment and student acceptance of “gray areas.” Anecdotally, when single-answer, multiple-choice questions are used, students and faculty express frustration that a singularly correct option rarely exists in clinical practice. The case-based SCT has been documented in the literature to assess clinical reasoning competence related to the ability to interpret information under uncertain or incomplete conditions, which may simulate the ambiguity of true clinical practice.^{3,4} The student must use not only relevant factual knowledge, but also appropriate reason-

ing skills.^{3,4} Students first read the case description and then consider a treatment (or modification) or monitoring. Given a new piece of information, the student must then formulate a decision about how the new information would influence his or her decision; this would be rated on a 5-point Likert scale (see Table 2).⁴⁻⁶ Depending on the question stem, answer choices could range from absolutely indicated to absolutely contraindicated. For this class, the course coordinator assigned points (eg, 1 point, 0.75 points, 0.5 points, etc) based on clinical experience about how clinicians might respond. In validated SCT, 10 clinicians practicing in the area of expertise (eg, psychiatric pharmacists) would answer all questions, and points would be assigned based on what the majority of pharmacists would do in clinical practice. If the majority of clinicians selected a particular response, it was considered the best option and assigned the most credit. Alternative options would be given less credit, but credit would still be given to the student for selecting a “correct” answer. The SCT has been studied in other health professions, such as surgical residents, nursing students, and after emergency medicine clerkships.⁷⁻⁹ A full description of the SCT, including composing and validating questions, is out of the scope of this article.

One barrier observed while teaching core classes via distance video connection is the inability to identify nonverbal cues signaling engagement, understanding, or confusion. Faculty generally rely on students to verbalize their questions; however, students may hesitate to do this in front of their peers. When seemingly unimportant technological issues, such as microphone static, low volume, or delayed slide progression occur, students hesitate to “interrupt” class even though the disturbance can impair their learning. With the BBC chat feature, an “undercurrent” communication helped students feel comfortable and fostered open lines of communication. Throughout the course, the communication cultivated a learning environment that allowed students to openly express their opinions, ideas, and questions, despite differing from their peers or faculty.

The limitation is that this was a small class size of 4 students. This may have allowed for more personal interaction and greater chance for direct communication with the faculty. Additionally, the SCT questions were not validated by a group (at least 10) of practicing psychiatric pharmacists. If a practicing psychiatric pharmacist would be expected to set the benchmark for this exam, it may be appropriate that the students score around 70% at the completion of this elective course. Unfortunately, this exam was not given to students who were not enrolled in the elective to identify whether the course was effective or if students were just able to select relevant drug information resources to answer the questions. Use of outside references was allowed to approximate real-world clinical practice.

Teaching of psychiatric topics varies in assigned hours, topics, and settings across the schools of pharmacy.¹⁰ An elective course offered to as many students as possible could provide them additional knowledge and skills to work with psychiatric patients. In the literature, psychiatry electives taught to pharmacy students have been reported.¹¹⁻¹³ The focus of these manuscripts assessing the elective is reducing stigma and showing positive attitude changes before and after the elective.¹¹⁻¹³ Courses were generally taught from 1 location in a variety of ways (eg, students presenting assigned topics, debating controversial topics, interacting with and interviewing patients with mental illness, etc) and using the physical classroom setting. In future iterations of Cases in Psychiatry, an assessment of student perceptions could be done to identify if the course changed attitudes and reduced stigma although 1 limitation is that students who might be interested in enrolling in a psychiatry elective may be, at baseline, more open to learning and understanding psychiatric illnesses in depth. Unfortunately, because the multiple campuses at University of Georgia can be as much as 4 hours away from Albany, requesting students attend campus on-site in order to engage in

direct patient care at the course coordinator’s practice site may not be feasible. It is interesting that some students found course activities to be only “somewhat effective” while all students found patient case discussions to be “effective.” Possible reasons could be lack of familiarity or the associated learning curve with other activities or that the activities were used for foundational knowledge rather than gaining understanding of clinical decision making or critical thinking. Future evaluations in this course could explore rationale behind course activity effectiveness ratings with subsequent modifications to required course activities as appropriate. Another area of future study might be to compare the changes in perception, level of understanding of psychiatric disease states, and willingness to work with patients with mental illness in an elective course that involves direct patient care activities versus no patient care and in the traditional classroom setting (1 physical location, face to face vs an online classroom setting). Additionally, with the college currently in the process of implementing a new curriculum in which all psychiatry pharmacotherapy will only be taught in the spring semester of the second year, continued evaluation of confidence levels might help determine the impact of the students’ progression in the curriculum on their confidence in skills such as clinical decision making and critical thinking. Asking more detailed questions relating to confidence level may be needed to identify potential confounders to interpretation of a student’s self-assessment.

Overall, because there may only be 1 faculty member with training in psychiatric illnesses at a college of pharmacy, limitations to offering an elective course in psychiatric pharmacy, such as 1 within this College of Pharmacy, could include limited space, inflexibility of the faculty to attend to other obligations (eg, faculty meetings, national professional meetings) during scheduled course times, and inability to accommodate students at multi-campus colleges of pharmacy. This course design helped overcome these barriers. The purpose of this course was to be able to offer a psychiatric elective to students on all campuses via delivery by 1 psychiatric pharmacy faculty member; located in Albany, Georgia; without facilitation by faculty on other campuses. This manuscript describes the feasibility (as determined by assessment using SCT and survey and 100% pass rate) of a course that was able to be offered to multiple campuses via an electronic platform that students deemed to be effective and appeared to meet the prespecified course objectives based on student feedback and objective assessment using the SCT. It is possible that components of this course could be implemented at other colleges of pharmacy, where a team approach or teaching face to face in the same physical location may not be feasible because 1 faculty has expertise in psychiatry and is based on a satellite campus. This course format could also be used for

teaching other specialty topics. Future directions for this course include continuation of this elective offering and improvements based on student assessment and performance. Additionally, a validated SCT, based on responses from at least 10 practicing psychiatric pharmacists, would be obtained in order to more accurately assess student competency with the management of psychiatric illnesses. Future studies should be done to identify validated SCT questions and therefore better assess the knowledge and abilities of students to care for psychiatrically ill patients in a simulated classroom environment.

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