

TEACHERS' TOPICS

Using Course Survey Feedback to Encourage Learning and Concept Application in a Self-Care and Nonprescription Medications Course

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Objective. To improve student application of course content and learning in a self-care and non-prescription medications course.

Design. A precourse survey was administered to students to determine confidence in their ability to advise patients about nonprescription medications and to identify what they would like to learn in the course. Data gathered from the precourse survey was then used to modify course content. A postcourse survey was conducted to encourage students to reflect on course concepts and apply them in practice or when advising friends and family members about nonprescription drugs and self-care.

Assessment. Comparison of precourse and postcourse responses showed an increase in students' confidence in their ability to provide nonprescription medication advice. Postcourse qualitative responses described student application of class concepts in providing self-care education and advice. Course and course director evaluations were positive.

Conclusion. Course surveys can be a useful strategy for encouraging students to think about how they may practically apply course concepts, bridging the gap between theory and practice.

Keywords: self-care, nonprescription medications, application, survey

INTRODUCTION

Self-care and nonprescription medication use are increasingly important aspects of pharmacy education and practice. Recognition of the value of nonprescription medication knowledge and skills is evidenced by recent changes in competencies in pharmacy education and standards for licensure.¹ The Center for the Advancement of Pharmaceutical Education (CAPE) Outcomes² and Accreditation Council for Pharmacy Education (ACPE) Accreditation Standards and Guidelines³ specifically include components of patient-centered self-care, health and wellness, and nonprescription medication use as areas of required competency and curricular emphasis.⁴ Pharmacist-assisted self-care is an important aspect of pharmacy practice since most US pharmacists practice in the community setting.⁵ The importance of self-care instruction has been described in a supplemental issue of the *Journal*.⁶

For learning to occur, new knowledge must be incorporated into a framework of prior experience and knowledge.⁷⁻¹⁰ Encouraging students to think about their personal experiences, interests, and learning objectives

may increase their intrinsic motivation to learn, and help them build connections with previously learned concepts.⁷⁻¹⁰ Self-Care and Nonprescription Medications is a required 3-credit hour course taught in the spring semester of the first year of the doctor of pharmacy (PharmD) curriculum at the University of Tennessee College of Pharmacy. It is the first pharmacotherapy course in the curriculum, and provides some connections with earlier coursework that focuses on patient assessment and interview skills, pharmacology, and pharmaceutical sciences. For example, the Basic Clinical and Communications course in the previous semester introduces the skills for conducting a patient interview and characterizing patient complaints. The Self-Care and Nonprescription Medications course builds on those broader concepts, including specific interview questions for a given problem, as well as a patient-specific plan based on patient responses.

The goal of the Self-Care and Nonprescription Medications course is to provide student learners with the knowledge and skills to provide pharmacist-assisted self-care and an enduring understanding of the material.⁷⁻¹⁰

DESIGN

The content of the Self-Care and Nonprescription Medications course included a wide variety of conditions and nonprescription medications with emphasis on those

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most commonly seen in community practice (Table 1). The course was designed to be consistent with Fink's Taxonomy of Significant Learning,¹⁰ with objectives focused on developing deep foundational knowledge and understanding early in the curriculum. A precourse student survey was administered via a virtual learning environment Blackboard (Blackboard Inc., Washington, DC) to assess students' confidence in their ability to advise patients about nonprescription medications, and to identify what they would like to learn in the course. Data gathered from the precourse survey was then used to tailor the course content based on student interest. For example, students expressed interest in learning about nonprescription drug use in special populations and natural products. So, nonprescription medication use in special patient populations (pediatric, geriatric, pregnant, and breastfeeding patients) was emphasized in cases, added to lectures, and evaluated in quizzes and examinations. Three class sessions were dedicated to natural products and dietary supplements and complementary and alternative therapies were integrated throughout the course within each therapeutic subject area. While team-taught in a traditional lecture format, course faculty members used teaching and assessment methods to enhance student learning and help learners see the practical application of course content.⁷ Some of these strategies included: frequent use of examples of real patient scenarios in the context of community or ambulatory care practice, exposure to practicing faculty role models, and case-based lectures. Four multiple-choice examinations were administered, including a cumulative final examination. Computer-aided open-book quizzes were administered via Blackboard. In addition to providing formative assessment throughout the semester, this activity was designed to encourage students to delve into the required textbook.

ASSESSMENT

Students performed well in the course overall with a final course average of 91% (range 78.5% – 98%). Anonymous, non-graded surveys assessing students' prior experience, personal learning objectives, and self-confidence were administered online through Blackboard at the beginning and end of the semester. Ninety-one (52%) of the 175 students enrolled in the course completed a precourse survey instrument and 135 (77.1%) completed a postcourse survey instrument. Both survey instruments asked students to self-assess confidence in their ability to advise patients, friends, and family members on the use of nonprescription medications. An open-ended response section asked students to identify what they would like to learn in the course on the precourse survey and to describe examples of things they had learned and applied in practice or in advising friends and family members on the postcourse survey.

The most common student responses regarding specific therapeutic areas and broader concepts, including issues related to triage and referral, special patient populations (geriatrics, pregnancy, breastfeeding), and product selection are summarized in Table 2.

More than two-thirds of the students reported either currently (36.3%) or previously (34.1%) working in the community pharmacy setting. At baseline, over half of the students (52.7%) were not at all confident or slightly confident in their ability to advise patients on nonprescription medications (Table 3). At the end of the semester, 83.7% of students were fairly or very confident in their ability.

On the precourse survey instrument, most students (86.8%) reported that friends and family sought their advice regarding nonprescription medications; however, less than one-third (30.8%) reported feeling comfortable advising friends and family in this area. Conversely, at the

Table 1. Self-care and Nonprescription Medications Course Content

● Allergy	● Patient Assessment and Consultation
● Cough and Cold	● Acne
● Constipation and Gas	● Hair loss
● Heartburn and Dyspepsia	● Scaly Dermatoses
● Diarrhea	● Contact Dermatitis
● Anorectal Disorders	● Atopic Dermatitis and Dry Skin
● Nausea and Vomiting	● Minor Wounds and Skin Infections
● Ophthalmic Disorders	● Sun-Induced Skin Disorders
● Contraception	● Fungal Skin Infections
● Disorders Related to Menstruation	● Warts
● Minor Foot Disorders	● Minor Burns, Sunburn
● Headache, Muscle and Joint Pain	● Natural Products and Supplements
● Fever	● Vitamins and Minerals
● Home Testing and Monitoring Devices	● Poisoning

Table 2. Summary of Qualitative Student Responses to Pre-Course Survey

Please list 3 things you would like to learn in Self-Care and Nonprescription Medications this semester:

Broad Topics

- When to refer to a physician
- How to select and dose nonprescription products for children
- How to assist geriatric patients in choosing nonprescription products
- How to choose a product for a specific patient
- How to counsel patients effectively
- How to advise pregnant patients
- Interactions between nonprescription medications, herbal products, and prescription medications
- How to improve the health of my community
- To develop great patient communication skills

Therapeutic Areas

- Cough and Cold
- Allergies
- Pain
- Supplements and Herbal Products
- Topical products
- Heartburn

end of the course, most students (86.7%) were comfortable advising friends and family. When asked to share how they had applied course content when advising friends, family, or patients regarding self-care and nonprescription medications, 88 (50.3%) students provided personal examples (Table 4). Student responses described how they had frequently applied class concepts in providing education and advice regarding nonprescription products, specifically crediting this course as the reason that their confidence and knowledge had improved.

Table 3. Student Self-Assessment Results

Question and Responses	Precourse Survey (n = 91), No. (%)	Postcourse Survey (n = 135), No. (%)
How confident are you in your ability to advise patients on nonprescription medications?		
Not at all	15 (16.5)	0 (0)
Slightly	33 (36.3)	12 (8.9)
Neutral	24 (26.4)	10 (7.4)
Fairly	17 (18.7)	94 (69.6)
Very	2 (2.2)	19 (14.1)
How comfortable are you advising friends and family about nonprescription medications?		
Not at all	11 (12.1)	0 (0)
Slightly	35 (36.5)	8 (5.9)
Neutral	18 (19.8)	10 (7.4)
Fairly	24 (26.4)	91 (67.4)
Very	4 (4.4)	26 (19.3)

Table 4. Summary of Qualitative Student Responses to Postcourse Survey

If you work in a community pharmacy setting currently, please describe any course content that you have been able to apply in your practice site:

- Cough, cold, and allergy
- Gastrointestinal (constipation, diarrhea, nausea, vomiting, heartburn, hemorrhoids)
- Analgesics and antipyretics headache, musculoskeletal pain
- Dermatology/topical products
- Vitamins, supplements, herbal products

Of the 175 students enrolled in the course, 112 (64%) completed a course evaluation using CourseEval (Academic Management Systems, Amherst, New York). Course and course director evaluations were positive with a mean score 3.7 ± 0.5 on a 4-point scale. Student perception of attainment of course objectives was rated on a scale of 1 to 6. The mean score for the objective “The student will be able to design a nonprescription drug therapy regimen for a specific patient” was 5.4 ± 0.8 . Students generally agreed with the statement “The content was consistent with the stated course objectives,” with a mean score 3.7 ± 0.4 on a 4-point (1 = strongly disagree, 4 = strongly agree). Student comments were favorable overall, describing the course as one that provided practical, immediately relevant information that they were able to apply in their professional and personal lives. Individual student responses to open-ended questions indicated that the open-book quizzes encouraged them to read the textbook and helped with examination preparation. Student responses regarding course weaknesses were focused on course logistics (expediency of grade posting) rather than teaching methods.

DISCUSSION

To promote learning, effective educators should first assess what students already know, then build upon prior knowledge, helping learners to connect new concepts to previously learned ones.⁷⁻⁹ The precourse survey allowed the course director to focus instructional content on topics the students indicated they would like to learn more about. Interestingly, therapeutic topics in which students expressed interest and reported application were consistent with recommended core self-care topics.³ The precourse survey made students think about their personal learning objectives for the course. This along with reflection on what they learned during the semester should enhance long-term retention and understanding,⁷⁻⁹ and help nurture the skills of self-assessment and life-long learning, important competencies in this constantly changing area of practice.¹¹ Application of concepts learned through

traditional lectures and reflection on those principles should help facilitate a deep, foundational understanding in pharmacy students. Students are more interested and engaged in learning when it is applicable to their lives outside the classroom (eg, advising friends and family).¹⁰ Including nonprescription medications as an area of therapeutic emphasis early in the curriculum also may allow pharmacy students to actively participate in direct patient care, assisting patients with self-care product selection while working the community setting.

CONCLUSION

Course surveys can be a useful strategy for encouraging students to think about how they may apply course concepts, bridging the gap between theory and practice. Application of knowledge and skills regarding self-care and nonprescription medications is a rewarding early practice experience for pharmacy students and may help prepare them to deliver pharmacist-assisted self-care.

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