Available online at www.sciencedirect.com

ScienceDirect

Currents in Pharmacy Teaching and Learning 6 (2014) 69–75

Currents in Pharmacy Teaching & Learning

http://www.pharmacyteaching.com

Research

Use of an interactive home product display activity to facilitate active learning in a nonprescription medicines course

Mary Barna Bridgeman, PharmD, BCPS, CGP[a,b,*], Danielle Candelario, PharmD[a,c], Rupal Patel Mansukhani, PharmD[a,d]

[a] *Department of Pharmacy Practice and Administration, Ernest Mario School of Pharmacy at Rutgers, The State University of New Jersey, Piscataway, NJ*

[b] *Robert Wood Johnson University Hospital, New Brunswick, NJ*

[c] *University Medical Center at Princeton at Plainsboro, Plainsboro, NJ*

[d] *The Great Atlantic and Pacific Tea Company, North Brunswick, NJ*

Abstract

Objectives: To describe the implementation and impact on student learning of an interactive over-the-counter product and diagnostic device display in a nonprescription medicines course.

Methods: Self Care and Home Care (four credits) is a required course offered in the third professional year of the pharmacy curriculum. The course is structured according to disease state modules that include didactic lecture supplemented by case-based review sessions. Students are additionally required to participate in a one-hour home product display activity session as a culmination of the semester's course work. During this activity, students rotate through product stations and complete a worksheet that requires the evaluation of product labeling to determine appropriate patient counseling. This interactive session is intended to better prepare students for providing patient counseling on the use of these products. A survey was developed and distributed for the Spring 2011 semester to assess the utility and impact of this activity on student learning.

Results: On the post-activity survey, all categories of product-specific knowledge evaluated showed improvement from the pre-activity evaluation. Over 90% of students indicated that participation in this activity reinforced information covered in class, enhanced confidence in explaining the use of self-care products, and rated this activity as enjoyable and valuable. Fewer students (79.2%) reported participation in this activity provided new information.

Conclusions: An interactive, hands-on product display with readily available over-the-counter diagnostic devices and medications enhanced student learning and product knowledge. This activity can be implemented in other programs seeking to expand the promotion of nonprescription medicines education.

Keywords: Self-care; Interactive learning; Home diagnostic products; Active learning; Nonprescription medicine

Introduction

Data from the Consumer Healthcare Products Association indicate that over-the-counter (OTC) product sales have exponentially increased from $2.9 billion in 1971 to more than $17 billion in 2011, helping to put pharmacists at the forefront of patient education and counseling on the use of these medications and devices.[1] With the increasing number of patients seeking self-care, or treatment of a disease or condition without physician oversight, pharmacists have become instrumental in helping to guide appropriate product selection for self-treatment. At the Ernest Mario School of Pharmacy, Rutgers, The State University of New Jersey, Self-Care and Home Care is a required course that provides

* Corresponding author: Mary Barna Bridgeman, PharmD, BCPS, CGP, Department of Pharmacy Practice and Administration, Ernest Mario School of Pharmacy at Rutgers, The State University of New Jersey, 160 Frelinghuysen Road, Piscataway, NJ 08854.

E-mail: mary.barna@gmail.com

1877-1297/14/$ – see front matter
http://dx.doi.org/10.1016/j.cptl.2013.09.016

student pharmacists with information regarding the documented uses, adverse effects, toxicities, patient counseling, and educational pearls necessary to assure the safe and appropriate use of OTC medications and dietary supplements. The course also reviews the selection, use, and care of medical devices and equipment, including blood pressure monitors, blood glucose monitors, and other home diagnostic kits, to prepare students to meet the demands for OTC product use.

The pharmacy practice curriculum is generally composed of didactic lecture courses that require students to study and apply therapeutic content to individualized patient care. Traditionally, barriers to the incorporation and implementation of knowledge-application activities have been identified as large classroom sizes, time constraints on the course faculty, and lack of adequate facilities.[2] By incorporating active-learning strategies, such as think–pair–share, muddiest point, and case-based learning, this may help pharmacy educators to address the barriers to implementation of knowledge-application activities in large classrooms. Through incorporation of these teaching strategies, students are provided instruction in a way that helps engage and enliven the classroom through fun and supportive activities. These techniques are intended to stimulate discussion and improve student retention and application of didactic course material.[2,3]

Several active-learning strategies incorporated into nonprescription medicine courses in pharmacy curricula have previously been described in the literature. These activities, however, have been limited to use in elective courses, to the description of the implementation of case-based reviews, and to the incorporation of Objective Standardized Clinical Examinations (OSCE).[4–6] Nykamp et al.[6] assessed student opinions of an active-learning activity through a questionnaire. This study found that students generally believed a take-home assignment reinforced information presented in the classroom and provided a good working knowledge of specific products.

This manuscript describes the implementation and student opinions of a hands-on in-class active learning assignment developed for and implemented in a large class course. This interactive product display activity was initially designed to help promote student participation and learning by allowing students to have hands-on time with OTC products and home medical supplies in a structured environment. The authors hypothesized, based on previous formal and informal feedback, that this activity would enhance student learning of course material. This hypothesis was evaluated using a pre-activity and post-activity survey in the Spring 2011 semester.

Course structure and activity implementation

Self-Care and Home Care is a four-credit required course offered during the spring semester of the third professional year of the pharmacy curriculum. The course is structured according to disease state modules that coincide with the major therapeutic product classes found in the community pharmacy setting (Table 1 for a modified didactic lecture schedule). Each disease state module includes one or two didactic lecture periods supplemented by interactive, case-based review sessions that serve to clarify any information that is unclear from lecture. These sessions also allow students the opportunity to apply the information covered in class in practical scenarios that a pharmacist is likely to encounter in the community pharmacy setting.

All course faculty members recognize the benefits of student learning associated with the implementation of active-learning techniques in the classroom setting. However, a major barrier to implementation and utilization of such techniques stems from large course enrollment, with an average of 200 students per year. Other barriers to implementation of active-learning techniques include the limited spatial resources. The pharmacy school does not currently have a dedicated space to provide a pharmacy practice laboratory, a devoted community pharmacy teaching space, or a simulated pharmacy environment.

Based on previous student course evaluations, the course model evolved from utilization of a strictly didactic lecture-based format to a more interactive format. Prior to the implementation of the interactive product display sessions, students reported that the self-care course provided them adequate product knowledge but that the course lacked the opportunity to practice the application of covered material. Students felt they lacked confidence with making product-specific recommendations based on patient characteristics. It was originally decided that the implementation of an interactive patient case review would help to better provide students the opportunity to practice their skills and apply product-specific knowledge. Further, to solidify student learning and to introduce students to potential barriers and difficulties associated with selecting an appropriate product for self-treatment, the course coordinators worked to create a mandatory, capstone interactive experience to promote retention and application of OTC product knowledge.

As part of this interactive experience, students were required to participate in a one-hour home product display activity at the end of the semester to give them an “inside-the-box” appreciation for nonprescription medications and self-care products. In this activity, groups of seven or eight students rotated through nine product stations: gastrointestinal disorders; cold, cough, and fever relief; products for eyes, ears, and nose; women’s health and sexual health; analgesics and pain management; smoking cessation; vitamins and nutritional supplements; home diagnostics; and incontinence products (Table 1 for included activities) during the one-hour session and complete a worksheet (Fig. 1) that required them to evaluate and compare product labeling to determine appropriate patient counseling. Students were given the opportunity to “taste test” innocuous