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Research

Pharmacy students' experiences with herbals and their perceived importance of the topic in pharmacy education

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Abstract

Objectives: The study objectives were to (1) assess students' experiences with herbals and their perceptions of the importance of herbals in professional education and pharmacy practice and (2) determine if experiences and perceptions differed based on students' demographics and background characteristics.

Design: This study employed an electronic survey sent to 500 pharmacy students enrolled in one college of pharmacy.

Results: A total of 158 surveys were analyzed (31.6% response rate) using descriptive statistics. Students were interested (mean = 3.78 (out of five) ± 1.0) in knowing more about herbal supplements. Students believed that herbals should be taught in pharmacy school (4.45 ± 0.7) and that pharmacists should be able to advise patients who use herbals (4.5 ± 0.8). Students' perceptions differed based on their demographics and background characteristics.

Conclusions: As future practitioners, pharmacy students acknowledged the need to learn more about herbal supplements and recognized that pharmacists should know how to advise patients who use herbals in order to more effectively care for this patient population.

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Keywords: Herbal supplements; Pharmacy students; Pharmacy education; Perceptions

Introduction

Complementary and alternative medicine (CAM) therapies encompass various modalities, such as yoga, Chinese medicine, and herbal supplements, that are not generally incorporated in conventional medicine. National surveys conducted in 2002 and 2008 show that CAM usage is growing with an approximately 2.3% increase in the number of U.S. adults who started to use CAM.[1,2] In 2007, approximately four of ten U.S. adults used some form of CAM and spent $33.9 billion out of pocket for CAM-related visits or purchases.[3] In general, diverse populations use CAM, but a greater proportion of CAM users includes women and those with higher education and incomes.[1,2] Patients with chronic illnesses, such as diabetes, cancer, chronic pain, and depression, commonly use some form of CAM to alleviate their suffering.[4–10] Natural products are the most common CAM therapy used by U.S. adults, with a 17.7% rate of usage.[1,2]

The use of herbal supplements has been associated with a reduction of diabetes complications, increased resistance to upper respiratory infection, and improvements in stamina and cognitive function, and it has been employed in the treatment of mild depression.[1,2,4,9,11] However, herbals can interact with each other as well as with many prescription and over-the-counter drugs, putting patients at a higher risk for adverse drug consequences and even death.[12] For example, people who use ginseng for reducing diabetic complications may experience unwanted side effects, such as insomnia and mood changes.[5] Echinacea possibly increases the plasma drug concentration of many other drugs, including acetaminophen, diazepam, and warfarin, due to its ability to inhibit the enzyme that metabolizes

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these agents.[13] Given that many patients use herbals without the guidance of a healthcare professional, such as doctors, nurses, and pharmacists, they may be at a significant risk for adverse therapy outcomes. Thus, healthcare professionals need to proactively inquire about herbal usage and be educated and trained to effectively respond to the needs of patients who are herbal users.

Herbal education and training are imperative if health professionals are to effectively advise those patients who use herbal supplements. Several studies of health professional students regarding CAM modalities (including herbals) have been conducted with primarily medical and nursing students[14–21] and to a lesser extent, pharmacy students.[22–27] These studies show that the students are interested in learning about CAM, which is likely a reflection of their beliefs that healthcare practitioners should know how to advise patients on CAM usage.[14,15,17,23–25,28]

Studies of pharmacy students revealed that not only were they interested in learning more about herbal supplements but that students also felt inadequately educated about herbals. The current study adds to this research stream by examining pharmacy students' perceptions of herbals and assessing how personal experiences and background characteristics relate to their perspectives on herbal usage and its importance to pharmacy practice.

As future healthcare providers who will likely have a heightened responsibility to advise patients about herbals, pharmacy students' experiences with herbals as well as their perceptions about herbal education and its role in pharmacy practice may be important to the effective development and structure of new or existing instruction on herbal supplements.[20,22,24] The current study focused on herbal supplements because they are commonly used by people with chronic illness, are typically orally ingested, and may potentially contribute to medication-related problems such as drug–herbal interactions.[4–9,12]

The study objectives were to (1) assess students' experiences with herbals and their perceptions of the importance of herbals in professional education and pharmacy practice and (2) determine if experiences and perceptions differed based on students' demographics and background characteristics.

Materials and methods

Questionnaire development

The survey questions were developed based on a review of the CAM literature involving health professional students and were modified to address the study's objectives. The first section of the survey contained 17 statements that measured students' perceptions about herbal supplements and their importance in their professional education and future practices. Students were asked to indicate their level of agreement with the listed statements using a 5-point Likert-type scale (1 = strongly disagree and 5 = strongly agree). Questions involved awareness about the use of herbal supplements in the U.S., students' levels of interest in herbals, and their perceived understanding of the effectiveness and safety of herbal supplements. Students also rated the importance of herbals in the pharmacy practice setting and the importance of knowing about herbals in relation to their future careers as pharmacists.

The second section contained 12 questions that assessed students' demographic characteristics, pharmacy work experience, and personal experiences with herbals. Students responded to questions regarding demographics, pharmacy training experience, and personal experience with herbals. Demographic characteristics included gender, ethnicity, and year of pharmacy education [first year (P1), second year (P2), third year (P3), and fourth year (P4)]. The training experiences included type of work experience (e.g., intern and technician), training site (e.g., chain, independent, and institutional), and availability of stocked herbals in the pharmacy. Lastly, the students were asked to respond to their personal experiences with herbals (e.g., have used or currently use herbals).

The survey was pre-tested with four pharmacy students and was slightly modified (word changes) based on their recommendations. The survey is available upon request.

Study sample and data collection procedures

The University of Texas at Austin (UT-Austin) Institutional Review Board (IRB) approved this study. An e-mail was sent by a pharmacy advisor to 500 pharmacy students in the UT-Austin College of Pharmacy in March 2009, requesting them to complete a five- to eight-minute online survey by clicking on the link to the survey (which served as their consent to participate in the study as was stated in the e-mail). The first page of the survey contained a cover letter explaining the objectives of the study and the remaining pages contained the survey questions. Students were asked to respond to the survey within a week. Two days after the initial deadline, a reminder e-mail was sent out to students. All responses were anonymous.

Data analysis

Students' responses were analyzed descriptively using Statistical Analysis Software (SAS/PC) for Windows Statistical Package. Descriptive statistics, such as means, standard deviations, frequencies, and percentages, were used to describe pharmacy students' responses to survey questions. ANOVA and *t*-test procedures were used to analyze comparisons.

Results

Out of the estimated 500 pharmacy students who received an e-mail survey, a total of 158 students responded, yielding a response rate of 31.6%. Table 1 lists respondents' demographics and background characteristics.