Geriatric Training Programs Offered at Schools and Colleges of Pharmacy

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The purpose of this study was to assess the current geriatric course offerings as well as those expected to be offered within the next two years by schools and colleges of pharmacy in the United States. A self-administered questionnaire was mailed to the 75 colleges of pharmacy accredited by the American Council on Pharmaceutical Education; duplicate questionnaires were sent to nonresponders. A total of 71 questionnaires (94.67 percent response rate) were returned and serve as the data base for this study. Four entry-level and four post-BS PharmD programs offer a required didactic course devoted entirely to geriatrics, while 10 entry-level programs and eight post-BS PharmD programs offer a required geriatric clerkship. Most other entry-level programs and post-BS PharmD programs offer an elective didactic course and/or an elective clerkship devoted to geriatrics. Didactic electives are available for select MS and PhD candidates. The majority of entry-level programs and post-BS PharmD programs teach principles of geriatrics as an integral component of one or more required didactic courses and/or clerkships. In the authors' opinion, any school or college that does not offer a required didactic and/or experiential course in geriatrics should examine its curriculum carefully and determine if students are receiving sufficient exposure in this area.

INTRODUCTION
The elderly population of the United States is living longer, increasing the need for health care professionals properly trained in the problems and the process of aging(1). In 1900 the average life expectancy in this country was just over 50 years of age and people more than 65 years of age represented only four percent of the total population. This contrasts with 1990 when nearly 13 percent of the population was 65 years of age or older and the life expectancy for women was 79 years and more than 72 years for men. While the total population grew 39 percent between 1960 and 1990, the percentage of Americans 65 years of age and older grew 89 percent and is expected to more than double over the next 40 years(2). The fastest growing proportion of the elderly population is the “oldest old”-those 85 years of age or older. This segment of the population increased 232 percent from 1960 to 1990 resulting in a total of 3.5 million people in this age bracket in the United States alone. This population is expected to grow to nearly nine million over the next 40 years.

The effects of the elderly on the health care system are substantial. The elderly utilize a disproportionately high percentage (30 percent) of the nation’s healthcare resources including prescription and nonprescription medications(3,4). Numerous factors place the elderly at increased risks for developing drug related problems. In order to improve patient outcomes, pharmacists and other health care professionals require a knowledge of the special needs of the elderly.

Undergraduate medical students, in general, have little systematic training in geriatrics. Of the 126 medical schools in the United States, only 13 require course work in geriatrics and only two offer it as an elective according to the 1993-1994 Association of American Medical Colleges’ curriculum directory(3). Without proper training, the unique needs of the elderly are neglected. It has been shown that physicians prescribe potentially inappropriate medications for nearly a quarter of all older people living in the community(4).

Studies have assessed geriatric pharmacy curriculums offered by schools and colleges of pharmacy and have delineated the fundamental requirements of geriatric education for pharmacy practice(5-10). The purpose of this study was to assess the current geriatric course offerings as well as those expected to be offered within the next two years by schools and colleges of pharmacy in the United States.

METHODOLOGY
A self-administered questionnaire was developed to gather objective information about the required and/or elective course offerings in the area of geriatrics for entry-level pharmacy students, post-baccalaureate PharmD candidates, MS candidates, and PhD candidates. No attempt was made
As depicted in Table I, respondents provided information about the types of required and elective courses devoted entirely to the area of geriatrics. Four entry-level degree programs and four post-BS PharmD programs offer a required didactic course. These courses most commonly meet for 15 to 30 clock hours during one semester. Required geriatric clerkships are usually conducted for one month (140 to 160 clock hours) in a long term care facility (LTCF) or a hospital/medical center. One post-BS PharmD program provides students with a 20-hour exposure in a LTCF and 20 hours in a hospital, while another program has a 240-hour requirement in a LTCF or a hospital. No MS or PhD program requires its students to enroll in a course devoted to the study of geriatrics. As shown in Table I, the majority of BS and entry-level PharmD programs offer students the opportunity to enroll in an elective didactic and/or experiential course devoted to geriatrics. Additionally, nine (21.95 percent) MS programs and five (11.9 percent) PhD programs provide an opportunity for students to take an elective course devoted to geriatrics. For BS students, the course is almost always offered during the fifth year of study and meets for 30-45 clock hours (a 2-3 credit-hour course). The course for entry-level PharmD students is usually a fourth or fifth year offering that also meets for 30-45 hours. One-half of the programs that offer elective geriatric clerkships for entry-level students (BS or PharmD) conduct them for one month, while clerkships in the remaining programs meet for various amounts of time ranging between 28 and 320 hours. The data gathered for post-BS PharmD program elective clerkships are similar to those obtained for entry-level programs. Table II lists the disciplines of faculty members responsible for teaching these required (as well as elective) courses in geriatrics.

**Geriatric Training as a Component of Another Course**

The number of schools and colleges that teach principles of geriatrics as an integral component of a required or elective course is shown in Table III. Entry-level and post-BS PharmD programs tend to offer students four hours of didactic training in geriatrics, with a range of 1 to 36 hours. Several respondents were not able to determine the actual number of hours devoted to geriatrics because these principles/concepts are integrated throughout the curriculum (especially in pharmacology, pharmacokinetic, and pharmacotherapeutic courses).

In those instances where geriatrics is studied as a component of a required clerkship for entry-level pharmacy students, the exposure most commonly is limited to fewer than 10 hours. In two cases though, one week of training is provided. In post-BS PharmD programs the experience is most commonly “integrated” throughout the clerkship program although three traditional and one nontraditional PharmD program devotes a 40 clock-hour block to this area.

**Courses in the Planning Stage**

In those instances where required and/or elective courses devoted to geriatrics are not offered, respondents provided
information about courses that are expected to be offered within the next two years. These data are summarized in Table IV.

College Involvement in Specialty Programs

Respondents also provided information about specialty programs that they sponsor, cosponsor, or otherwise help to support. These data are delineated in Table V. The most commonly reported endeavor was a gerontology center followed closely by a geriatric residency program. One college reported that a certificate program in geriatrics is offered to BS and post-BS PharmD candidates as well as practitioners; another college hopes to reinstitute its certificate program soon.

DISCUSSION AND CONCLUSION

This study revealed that few entry-level students or post-BS PharmD students take a required didactic or experiential course devoted to geriatrics. No school or college of pharmacy offers a required course in geriatrics to MS or PhD candidates. Most (but not all) schools and colleges offer elective courses in this area to BS and PharmD students and a few institutions offer an elective course in geriatrics to MS and PhD candidates. Many schools and colleges provide a limited amount of training in geriatrics as an integral component of a required or elective course or as an integrated theme throughout their curriculums.

In those situations where a school or college of pharmacy is not currently offering a didactic or required course in geriatrics, it is important to determine whether the institution plans to offer such a course in the near future. Interestingly, a few respondents noted that these courses will be implemented when their institutions begin to offer the entry-level PharmD degree. In addition, it is noteworthy that few schools or colleges plan to offer a required didactic course in geriatrics. Rather, the emphasis is on providing elective didactic courses or required/ elective clerkships.

Possible hindrances to the implementation of a geriatric program may be budgetary constraints, lack of appropriately trained faculty, and/or lack of adequate training sites. One existing resource that should be considered is the use of consultant pharmacists who are mandated by federal and state guidelines to monitor the therapy of LTCF residents. To obtain information concerning consultant pharmacists,

References