Evaluation of a Geriatric Advanced Pharmacy Practice Experience

Krista Donohoe, PharmD, BCPS, CGP;1 Aulbrey Drisaldi, PharmD Candidate;1 Fawaz Alotaibi, MS;1 Tabatha Bonas, PharmD;2 Edward Shibley, RPh, MBA;2 Patricia Slattum, PharmD, PhD, CGP2

1Department of Pharmacotherapy and Outcomes Science, Virginia Commonwealth University School of Pharmacy; Richmond, VA
2Brookdale Senior Living, Plaza Professional Pharmacy at Imperial Plaza; Richmond, VA

Introduction

The Virginia Commonwealth University (VCU) School of Pharmacy requires that students are exposed to geriatrics in both the didactic and experiential settings. However, many schools of pharmacy do not have geriatric-specific required curricula.

The 2016 Accreditation Council for Pharmacy Education (ACPE) Standards and Guidelines do not specifically require geriatrics as part of the doctor of pharmacy (PharmD) curriculum.1 ACPE does state that students be exposed to “diverse populations” as related to age, gender, race/ethnicity, socioeconomic factors, and disease states on advanced pharmacy practice experiences (APPEs).1 ACPE also specifies that the pre-APPE curriculum should provide foundational knowledge and skills that allow students to care for patients “across the lifespan.”1 Additionally, the 2013 Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes recognize the need for students to adequately assess the health needs of a specific population, but there is no explicit mention of geriatrics.2 Due to the lack of a geriatric requirement in the didactic or experiential curriculum, the American Society of Consultant Pharmacists (ASCP) has published a new Geriatric Pharmacy Curriculum Guide to help prepare pharmacy students to care for older adults.3

The goal of this study is to exhibit the importance of integrating geriatric education into the experiential pharmacy curricula to meet the need of this growing population.

Methods

At VCU School of Pharmacy students are required to complete a five week rotation in geriatrics as one of their eight required rotations. To determine if student learning was occurring during the focused geriatric APPE a pre- and post-assessment was developed by the VCU faculty members in collaboration with the preceptors at Plaza Professional Pharmacy.

The pre- and post-assessment included:
- 25-point knowledge-based geriatric pharmacotherapy quiz
- Survey to ascertain students’ confidence in the following areas:
  - Communication
  - Immunizations
  - Geriatrics-specific pharmacotherapy knowledge
  - Ability to fill and check monthly unit dose prescription cards
  - Average time required to accurately fill one unit dose prescription

On the post-assessment students were also required to fill out a medication review for an assisted living patient using the case they had during the knowledge-based quiz.

Consent from students to use their de-identified assessments was obtained. The Institutional Review Board of VCU approved this study as exempt research.

Results

Both the pre- and post-assessments were completed by 30 students.

The average score on pre-assessment knowledge-based questions was 54%. The average score improved to 88% on the post- assessment.

Table 1. Student’s knowledge, time and number of errors to fill one prescription before and after geriatric APPE (n=30)

<table>
<thead>
<tr>
<th>Assessment Item</th>
<th>Pre-assessment Mean (SD)</th>
<th>Post-assessment Mean (SD)</th>
<th>p-value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student knowledge base quiz score (out of 25 points)</td>
<td>13.37 (3.10)</td>
<td>22.00 (1.64)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Time to fill prescription (min)</td>
<td>4.00 (0.97)</td>
<td>2.45 (0.76)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Number of errors/prescription</td>
<td>0.58 (0.15)</td>
<td>0.07 (0.13)</td>
<td>0.479</td>
</tr>
</tbody>
</table>

Abbreviations: SD = standard deviation
*p-Value’s were used to evaluate the difference in mean between pre- and post-assessment with a 0.05 level of significance.

Table 2. Students’ confidence before and after geriatric APPE (n=30)

<table>
<thead>
<tr>
<th>Confidence Item</th>
<th>Increase</th>
<th>Decrease</th>
<th>Same</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I am confident in my ability to communicate (i.e. interview, interact, counsel) with older adults.</td>
<td>66.6%</td>
<td>6.6%</td>
<td>26.9%</td>
</tr>
<tr>
<td>2. I am confident in my ability to appropriately screen, determine eligibility, and administer immunizations to older adults</td>
<td>86.6%</td>
<td>0%</td>
<td>13.33%</td>
</tr>
<tr>
<td>3. I am confident in my geriatric pharmacotherapy knowledge and ability to appropriately complete geriatric medication reviews and make recommendations to providers.</td>
<td>96.6%</td>
<td>0%</td>
<td>3.33%</td>
</tr>
<tr>
<td>4. I am confident in my ability to appropriately fill and check bubble pack prescription cards.</td>
<td>76.6%</td>
<td>0%</td>
<td>23.3%</td>
</tr>
</tbody>
</table>

Student’s confidence improved in all areas except a small percentage, who reported a decrease in their ability to communicate with older adults at the end of the rotation. This was possibly due to being overconfident in their ability to communicate with older adults at the beginning of the rotation.

Limitations

Since identical pre- and post-assessments were used, a test-re-test bias exists. Additionally, students’ knowledge was tested immediately post-rotation, so long-term retention of this material may vary. This could be evaluated in future studies.

Conclusion

It is clear that pharmacy students benefit in knowledge, skills and confidence from completing a geriatrics focused APPE. Students do not receive these benefits from other rotations and still lack the knowledge and confidence despite the incorporation of geriatrics into the PharmD curriculum at VCU.

References


Correspondence: Krista Donohoe, KLDonohoe@vcu.edu