Introduction

With the rapid growth of oncology therapies including ambulatory care, the need for pharmacists to understand chemotherapy-related issues is critical. The FDA has approved more oral oncology agents in recent years and patients are being treated as outpatients. These changes are challenging pharmacists to have a better understanding of treatment modalities. The concern is whether the advances in oncology are being adequately addressed in the curriculums of colleges of pharmacy.

Objective

This study was designed to survey student pharmacists about the level of knowledge they obtained through didactic curriculum as well as IPPEs, APPEs, and internships related to oncology modalities.

Methods & Materials

- ONU IRB approved
- Student and pharmacist designed a twenty-five question survey
- Survey developed then pilot tested
- Qualtrics online survey software and insight platform used for development and administration of survey
- Universities contacted to request participation
- Survey was sent to six accredited colleges of pharmacy from four different states
- Survey obtained information from students in all four professional years of pharmacy school.
- Survey distributed to students through email
- Questionnaire responses were on an 11-point sliding scale with lower numbers, including zero, showing disagreement and higher numbers representing agreement
- SPSSx software was used to analyze all data with inferential and descriptive statistics.
- Statistical analysis was run to compare the homogeneity of responses from the other colleges of pharmacy
- Based on this analysis, the other colleges of pharmacy responses were combined and then compared to ONU

Results

Total of 504 students responded to the survey

- 109 (21.6%) professional year 1
- 108 (21.4%) professional year 2
- 116 (23%) professional year 3
- 171 (33.9%) professional year 4
- 55 (30.8%) males
- 349 (69.2%) females

The authors have no known conflicts of interest

Statistical significance differences in responses

- Only six colleges of pharmacy were surveyed.
- All colleges of pharmacy surveyed were located in the Midwest.
- Response rate varied by colleges.
- Incomplete surveys were used in the analysis without inputting missing data

Discussions

- The responses were stratified and analyzed by professional year in college.
- There was approximately a 5 point increase from professional year two to professional year three in the student’s understanding of chemotherapy.
- The average score regarding knowledge from IPPEs was 1.7 for community and 4 for institutional.
- Students in their fourth professional year responded with a 5.9 out of 10 for exposure and knowledge of oncology/chemotherapy gained from their APPEs.
- Students in their fourth professional year also expressed a score of 5.8 pertaining to their ability to identify side effects of chemotherapy and a score of 5.4 in their ability to counsel a patient on the side effects of their chemotherapy.
- Students from all professional years gave an average score of 6.4 stating that they think pharmacy colleges should introduce oncology/chemotherapy earlier in the curriculum
- Students also responded with a 7.2 out of 10 recommending more required information on oncology/chemotherapy/radiation therapies as a part of their APPE experiences.

Conclusions

- Student pharmacists are receiving very little exposure to oncology-related topics during their experiential experiences.
- Most students do not receive didactic oncology knowledge until the third professional year.
- Students are not as comfortable with oncology-related topics, especially the ability to identify adverse events and counsel patients.
- Students are still not comfortable with oncology topics, even following their APPEs in their last year of school.
- Colleges may need to consider incorporating oncology-related topics earlier and provide more exposure during the experiential experiences.

Limitations

- Only six colleges of pharmacy were surveyed.
- All colleges of pharmacy surveyed were located in the Midwest.
- Response rate varied by colleges.
- Incomplete surveys were used in the analysis without inputting missing data.

An evaluative study of student pharmacists’ oncology/chemotherapy knowledge from didactic curriculum and experiential experiences from six colleges of pharmacy

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