Integrated Case Based Learning (iCBL) in Pharmacotherapy Recitation Series

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Objective

- To evaluate students’ perceptions of the redesigned pharmacotherapy recitation course with the inclusion of integrated case-based learning (iCBL) activities to promote student learning

Background

- The Lake Erie College of Osteopathic Medicine delivers an integrated, Medicinal Chemistry, Pharmacology and Pharmacotherapy (MC-PCol-PT) lecture-based course series
- A PT Recitation course that uses active learning methods to engage students is provided parallel to the integrated lecture series
- iCBL activities merging material from MC-PCol-PT have been added to the PT Recitation course to promote higher level learning in students

- The goal of this series is to prepare students for clinical practice through the application of knowledge using inquiry-based learning methods

Cases

1. AJ is a 60 YOF admitted to the ICU following multiple surgeries following a 6-hydroxyl group, immune system activation, side effects (e.g., itching, nausea). What happens when she takes codeine and she tells you that she is more sensitive to codeine than in the past? What are some possible reasons for this? Why or why not? If not, what other medication might you recommend for a patient with a similar history?

- 6-hydroxy group, immune system activation, side effects (e.g., histamine release), natural versus synthetic opioids

- MC-PCol-PT concepts incorporated

- Bulky Group-Lipophilic, Oral Prodrug, cephalosporin generations, spectrum of activity, beta-lactamase resistance, IC50 values

Methods

- A 12-item anonymous survey instrument was developed to evaluate the students’ perceptions and impact of the iCBL activities on their higher order thinking and other benefits and administered using www.socrative.com Pro Calculations, Pharmacokinetics and Compounding in iCBL activities
- The survey was conducted for the class of 2018 (P4s) and class of 2019 (P3s) from both Florida (FL) and Distance Education (DE) pathways
- To assess perceptions of short-term benefits, the survey was administered to the P3s immediately following the iCBL activities and to assess perceptions of long-term benefits the same survey was administered to the P4s approximately one year after the same iCBL activity was administered

- Primary outcome: Student perceptions of short & long term benefits of iCBL on Bloom’s Taxonomy of learning

- Secondary outcome: Student perceptions of overall short-term (P3s) and long-term (P4s) course-specific benefits of iCBL activities

Results

- The overall results indicate that P3s were more receptive to the idea of iCBL activities and to comprehend information being taught through iCBL activities

- The least perceived benefit among all students was knowledge of pharmacotherapeutics included as iCBL activities

- The mean response on overall results indicated that P3s were more receptive to the idea of iCBL activities when the survey was conducted, which may have impacted their perceived benefits

- 81% of all students (P3s and P4s) surveyed reported agreement or strong agreement regarding iCBL activities in improving all six Bloom’s taxonomy of learning (Figure 1)

- Overall, the mean response for P3s was higher for each question compared to P4s, which could indicate that P3s had a higher perceived benefit in the short term compared to the long-term perception of P4s (Table 1)

- The mean response on knowledge, comprehension, application, and synthesis levels of Bloom’s taxonomy of learning were significantly higher for P3s (e.g., short-term impact) compared to P4s (e.g., long-term impact)

- The mean response on analysis and evaluation levels of Bloom’s taxonomy of learning were not significantly different between P3s and P4s (e.g., same-long-term impact)

- The greatest perceived benefit among all students was improved ability to apply information to a patient case

- The least perceived benefit among all students was knowledge of pharmacotherapeutics included as iCBL activities

- The overall results indicate that P3s were more receptive to the idea of iCBL compared to P4s suggesting these activities may have a greater short-term benefit and impact on learning

- The overall lower mean responses for the P4s may also suggest that the students may not be able to precisely identify or recall the impact and benefits of the iCBL activities that they had participated in the year before

Discussion

- Overall, results suggest that students have a positive view of iCBL activities

- iCBL activities demonstrated a greater short-term impact on student perception of Bloom’s taxonomy of learning and course-specific benefits

- The current pilot of iCBL activities are being modified based on the student feedback presented in this poster and additional MC-PCol-PT topics including cardiovascular disorders and neurological disorders are now being included as iCBL activities

- Plans are being developed to include topics from other courses such as Calculations, Pharmacokinetics and Compounding in iCBL activities

Limitations

- P3s did not have the opportunity to apply information on APPE rotations when the survey was conducted, which may have impacted their perceived benefit

- There were fewer P4s who participated in the survey (possibly because they were on APPE rotations)

Conclusions

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Disclosures

- The authors of this poster have no disclosures to report

References