Student comfort and perception of women’s health topics using lecture and TBL delivery methods

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Background

During the third professional year in the curriculum, student pharmacists are required to complete two elective courses over Fall and Spring semesters. The electives run an entire semester and are 2 credit hour courses. Drs. Armstrong, Bellone, and Carroll have served as course coordinators for one of the electives offered in Harrison School of Pharmacy, the Women's Health elective. This course has historically been delivered utilizing traditional lectures since inception. However, in 2013 the course was redesigned and approved by the Harrison School of Pharmacy Curriculum committee to be delivered as an active, team-based learning (TBL) course. To assist instructors with teaching throughout the semester, a pre-course survey was developed and administered to assess students’ baseline comfort and general understanding with women's health topics, as well as their individual goals for the course. When the course was redesigned to be a TBL course, questions were added to the survey to assess baseline student learning preferences through course delivery. To assess student comfort and general understanding of women's health topics, if the students’ individual goals were met, and learning preferences, a post-course survey was administered to assist course coordinators with course assessment and future course planning.

Objective

• The primary objective was to compare student perceptions regarding comfort level with women's health materials before and after a women’s health elective was offered. In addition, survey responses were compared between classes delivered by traditional lectures vs TBL.

• A secondary objective was to compare course grades between classes delivered by traditional lectures vs TBL.

Methods

A pre- and post-course survey was administered to assess students’ perceptions in comfort making recommendations regarding women's health topics. The survey also assessed students’ learning preferences in 2013-14 secondary to course delivery changes (lecture to TBL). All students enrolled in the course were given the survey on the first (pre) and last (post) day of class. Grades were analyzed for classes delivered via traditional lectures vs TBL. Survey responses were analyzed utilizing ANCOVA and Pearson's Correlation. Grades were analyzed utilizing a Chi Squared test. This study was approved by the Auburn University IRB.

Results

Ninety-two students were enrolled in the class (2011-14).

Enrollment by Year

<table>
<thead>
<tr>
<th>Year</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>n</td>
<td>24</td>
<td>30</td>
<td>27</td>
<td>11</td>
</tr>
<tr>
<td>Lecture</td>
<td>Traditional</td>
<td>TBL</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The response rates were 100% (pre) and 79% (post).

Students’ perceived comfort levels making recommendations

- For the majority of topics (70%) in the course, students’ perceived comfort levels making recommendations improved in the post vs pre survey. This was consistent for both learning formats (lecture vs TBL).
- The improvement in comfort levels in making assessments and recommendations related to women’s health topics ranged from as little as 2% to as high as 60%.
  - The mean percent change in comfort level was 29.2% across all 4 years.
  - The mean percent change in comfort level was 16.8% with traditional lecture vs 37.8% with TBL.
- The mean percent change by year was:
  - 19.9% 12.8% 32.9% 42.6% for pre and post (2011-2014).

- The following topics had either no improvement or a decrease in comfort level at the end of the course from baseline:

<table>
<thead>
<tr>
<th>Comfort Level</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decrease</td>
<td>Cancer screening</td>
<td>Cancer screening</td>
<td>Cancer screening</td>
<td>Cancer screening</td>
</tr>
<tr>
<td>No change</td>
<td>Gestational DM</td>
<td>ASA recommendation</td>
<td>CV risk assessment</td>
<td>Labor/delivery management</td>
</tr>
</tbody>
</table>

Implications

Students’ perceived comfort in making recommendations related to women’s health improved after completing a semester elective in women’s health, regardless of the method of course delivery. However, there was a larger percentage change in the comfort level with topics using TBL vs lecture based course delivery. When the course was delivered via TBL, students overwhelmingly reported lecture based course delivery was a beneficial learning method post (74%) vs pre (20%). TBL was not as preferred (26% post vs 50% pre).

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