Student Baseline Knowledge & Confidence in Interpretation of Evidence-Based Medicine
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INTRODUCTION

- Evidence-based medicine skills employed to answer clinical and other pharmacy-related questions are essential elements of contemporary pharmacy practice.
- The University of Wisconsin-Madison School of Pharmacy uses a threaded approach to teach evidence-based decision-making skills over a three-year period.
- Teachers collaborate to build and reinforce skills and concepts across the three years.

OBJECTIVE/INTENT

To improve the quality of a longitudinal evidence-based medicine (EBM) curriculum by determining gaps in student understanding of EBM concepts and to assess students’ metacognition of their personal knowledge deficits.

METHODS

- All students enrolled in the drug literature evaluation course were invited to participate in the survey.
- Students answered 10 knowledge-based and 11 confidence-based questions regarding their understanding of EBM concepts.
- Students were asked to rate their confidence as: 1 = none, 2 = a little, 3 = a fair amount, 4 = a lot, 5 = complete confidence.
- Knowledge questions included five foils, including one stating “I do not know the answer.”
- Students were instructed to answer the questions to the best of their abilities and encouraged to admit if they did not know the answer.

DATA ANALYSIS

- Stata 14.0 was used to determine descriptive statistics of confidence and knowledge scores.
- A Cronbach’s alpha was calculated for the confidence questions.
- The Cronbach’s alpha score for confidence questions was 0.92 indicating high internal consistency.

RESULTS

- 119 of the 134 students completed the survey.
- 6 instances of missing data in the knowledge questions were marked as incorrect.
- Percent correct knowledge scores ranged from 6.7% to 59.6%.
- 4 of 9 question pairs demonstrated a pattern where students with lower confidence were more likely to select “I do not know the answer” for the corresponding knowledge question & students with higher confidence were more likely to select correct answers (see Figure 1).
- p-value, calculating and interpreting relative risk, and calculating number needed to treat.

CONCLUSIONS

- This evaluation gave teachers a better understanding of our students’ baseline knowledge and deficits regarding evidence-based decision-making.
- A limitation at present is the lack of skill evaluation; this will be evaluated at future points in the threaded curriculum.

FUTURE DIRECTIONS

- Going forward, student confidence and ability to apply knowledge will again be assessed.
  1. Prior to students completing written answers to actual clinical questions in the third year of the program.
  2. Toward the end of the fourth program year after students have completed 4 to 5 additional written clinical inquiry assignments.

REFERENCES