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Poster Title

Faculty Development for Fostering Clinical Reasoning Skills in Early Medical Students

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Abstract

Clinical reasoning refers to the mechanism by which clinicians gather and process information to generate a diagnosis and plan of management (1). Many physician educators who are experts in their given fields are excellent in clinical reasoning, but may have difficulty conveying their complex thought processes to students (2, 3). Faculty development can be designed to address how to teach clinical reasoning. In our work we examined the perceptions of faculty who participated in a faculty development experience centered on how to teach an innovative, modified Bayesian approach to clinical reasoning (4). Our project involved five faculty who voluntarily taught in a 2-week Reproductive Medicine Module course for 2nd-year medical students in the Winter of 2015. Faculty facilitated the development of clinical reasoning skills through small group, case-based workshops. As preparation for teaching in the module, faculty participated in a 1.5-hour workshop on how to teach clinical reasoning to medical students using a modified Bayesian method in which the students were given a short clinical vignette and gathered data to produce a differential diagnosis by assigning probabilities. Subsequent data were obtained through physical exam and laboratory results. Each time the students reassigned probabilities to their diagnoses until they arrived at a single possibility. Faculty were offered the opportunity to have one workshop session videotaped for self-assessment and feedback with an educator. They were also interviewed before and after the module regarding their perceptions on teaching clinical reasoning. In our preliminary thematic analysis from the interviews, the following themes emerged:

- (1) Faculty development enhanced their understanding on how to teach clinical reasoning.
- (2) There was value in the teaching of clinical reasoning through our structured, modified Bayesian approach.
- (3) The integration of early medical student content knowledge with clinical reasoning skills was important.
- (4) The use of cases was essential in fostering clinical reasoning skills.

This work provides insight into how to design faculty development for the teaching of clinical reasoning skills to early medical students (5), as well as a pragmatic approach for implementing clinical reasoning skill development in the medical school curriculum.

References

- (1) Eva KW. What every teacher needs to know about clinical reasoning. *Medical Education* 2005; 39 (1): 98-106.
- (2) Rencic J, Kopelman R, Wiese J. Teaching clinical reasoning on the inpatient service. In: Wiese J, ed. *Teaching in the Hospital*. Philadelphia: American College of Physicians 2010.
- (3) Lurie S. Towards greater clarity in the role of ambiguity in clinical reasoning. *Medical Education* 2011; 45: 326-328.
- (4) Connors G. Clinical Reasoning [Internet]. 2014 [cited 2014 Nov 7]. Available from: <http://curriculum.med.yale.edu/clinskills/>
- (5) Ericsson KA. Deliberate practice and acquisition of expert performance: a general overview. *Academic Emergency Medicine* 2008; 15(11): 988-94.