Introduction

Picking out patient points from patients' stories, making sense of the information and turning it into diagnosis is a skill students need to learn. This clinical reasoning process is often not overtly displayed and explained and may even seem like a 'black box' to students. This poster describes interactive integrated large group learning sessions for 2nd year students to learn about and practice this skill.

Bristol Medical School has traditionally followed a conventional early years science course with a small amount of body systems based clinical teaching prior to full clinical contact from Year 3. Clinical reasoning was not explicitly taught. To help students integrate science and clinical learning and to practice clinical reasoning we created a series of large group interactive learning sessions. The literature describes two approaches for teaching clinical reasoning: the serial-cue method and the whole case method. The serial-cue method involves having a diagnostic question and the students work as a group to find the diagnosis. The whole case method involves having a case scenario and the students contribute to reaching a diagnosis. In each case there is a question to address. The session involves students to link their science learning to clinical presentations in primary and secondary care settings. We used a variety of methods to actively engage all students and feel that this helps students to the level of 'analysis' in the cognitive domain of Bloom's taxonomy. In total, together with academic and clinical colleagues, we have created five two-hour sessions linked to the body systems the second year students were studying: CVS, GI/GU, Renal and Neuro.

In the lead-up to the launch of the innovative MB21 Bristol undergraduate curriculum we wanted to evaluate these sessions and our explicit teaching of clinical reasoning. This poster showcases these sessions and how they link anatomy, physiology and clinical medicine as a method for explicitly teaching clinical reasoning. We present results that demonstrate students' clinical reasoning and how they evaluate their understanding of the clinical reasoning process as part of these sessions.

Method - Description of the sessions and data collection

We created five integrated interactive large group learning sessions linked to teaching about body systems: CVS, GI/GU, Renal and GI.

Sessions follow a similar pattern. They have a central patient with a particular presenting symptom, 'pop up patients' with similar symptoms but different diagnoses and 'pop up science' to revise and link relevant physiology and anatomy.

We use the serial-cue method and gradually reveal data for our main patient over the course of the session. In doing this we up science’ to revise and link relevant physiology and anatomy.

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We use a variety of methods to make learning ‘active’. An initial quiz is intended to draw students in and activate previous knowledge. Students then brainstorm diagnoses for the presenting symptom, receive more data at different and repeated rates on diagnoses. This allows explicit discussion around clinical reasoning and diagnostic thinking as the students acquire an increasingly dense set of data.

To add this process we give the students a clear ‘five step plan’ describing the diagnostic process. This asks students to apply key findings to ‘frameworks’ they have already learned about, such as anatomy or physiology and to practice succinct problem formulations. We encourage them to keep in mind the ‘five step plan’- ‘Diagnosis’.

The data we have collected are the students’ voting patterns which show how students adjust their diagnoses in response to increasingly detailed patient data and different demographics and how they evaluate their understanding of the clinical reasoning process.

Changing voting patterns for the Renal and CVS sessions

Results

The majority of students felt that they had gained a better understanding of the clinical reasoning process. We are planning to further develop these large group learning sessions for our MB21 curriculum.

References

[Harris, SJ, A New framework for teaching clinical reasoning in primary and secondary care. Med Educ 2009;43: 946-973
[Barbara, Laue, Judy Harris, Barny Hole]

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Changing voting patterns for the Renal and CVS sessions

First vote on minimal data

Voting patterns for some symptoms and findings but different gender and age

Results

Results from our five integrated lectures in 2017-18 suggest that second year students adjust their diagnoses in response to sensitized presented information. Students demonstrate probabilistic reasoning when they take into account factors that they believe are specific to each patient. We feel that this represents evidence of learning at Kirkpatrick level 2-3.

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