

Title: Effect of case based learning on undergraduate medical students in pathology

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Context and setting: Case Based Learning (CBL) is a teaching learning method which promotes analytical and problem solving skills in the learners (1). CBL is an interactive, learner-centered approach that helps medical students to appreciate clinical applications of theoretical knowledge as it uses a guided inquiry method (2). It is considered that CBL offers an appealing student-centric approach that encourages questioning and critical inquiry (3). The role of the instructor is to facilitate learning.

Why the idea or change was necessary: Pathology curriculum content is delivered in a time-honoured and well-established discipline-wise system based approach and is predominantly taught by means of didactic lectures at the undergraduate level. The purpose was to determine the effect of CBL on undergraduate students in Pathology and whether students found appealing enough to focus on learning objectives.

What was done: The study population included 130 Year 2 undergraduate medical students. Two important undergraduate topics of 'Pulmonary tuberculosis' and 'Ischaemic Heart Disease' were selected for CBL. All the students were given a pre-test on both the topics. The 130 students were divided into two batches of 65 students each. One half (Roll No 1-65) were taken to a lecture hall and taught 'pulmonary tuberculosis' in the conventional lecture format by a senior faculty member. The other CBL half (Roll No 66-130) were taken to the departmental museum cum practical hall and further broken up into 10 small groups of 6-7 students each. Each small group was taken through the same topic by one faculty member/postgraduate student in the CBL methodology. Both groups were then administered the same evaluation /assessment sheet after their respective sessions as a post test. Later, the batches were crossed over and the process repeated for the second topic - 'Ischaemic Heart Disease.' The CBL groups were also requested to fill up a survey sheet (for Qualitative Data Analysis). A few questions administered on the topics, immediately after the CBL/Lecture sessions, formed part of the entire question paper five months later in an end of term examination.

Evaluation of the results and impact: Faculty rated CBL as very effective in stimulating student interest and noted that students were more engaged and involved during CBL. The results of this study showed an overwhelming support from the students for CBL sessions over lectures. Students found CBL to be inspiring and offered a feedback that faculty continue lectures/classes for normal topics and use the CBL methodology regularly, especially in topics that were difficult to understand and for tricky and clinically important topics. CBL methodology, as compared to the lectures, showed significantly improved academic performance and improved students learning, reasoning and students' decision making abilities. Importantly, a

significant increase was also seen in scores at the end of term examination held five months later despite more questions being asked.

These results reinforce that active learning improves if students are presented with content framed and designed as a problematic clinical case or problem (4). CBL enhances critical thinking among students and, to be more rewarding to students and faculty alike, should be used judiciously as a valuable adjunct to lectures.

References:

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