

Title:

Integrated teaching programme with student centered case based learning for undergraduates at B J Medical College Pune

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Context and setting

Teaching undergraduate medical students frequently remains in separate academic departments, without integration to interrelate or unify subjects. The Medical Council of India desires an increase in integration in order to provide students with a holistic rather than fragmented learning perspective.

Why the idea or change was necessary

This project was designed to establish a method for vertical and horizontal integration which takes advantage of the abundant number of patients in developing countries and eliminates the need for written case scenarios. A curriculum intervention was created using student-centered clinical case-based learning (CBL) to enhance clinical learning.

What was done?

Six residents and faculty in the Surgery department were trained as CBL facilitators during three workshops. Each facilitator conducted eight sessions for six groups of students (8-10 per group) during a final year surgery rotation. Fifty-five students from another surgery rotation, conducted in a traditional manner, acted as control. Both groups were introduced to concept mapping and each student produced one concept map each as part of their assessment.

The CBL process utilized actual patients to trigger learning. The study group of students investigated learning issues generated by their discussions. Faculty from all medical school departments acted as resources. Students regrouped after 4-5 days to discuss learning issues identified in the first session. A senior surgeon consolidated learning concepts at the end of the second group session.

Factual knowledge was evaluated using short answer questions (SAQ) and extended matching questions (EMQ). Integrated knowledge and self-learning skills were assessed using a concept map that students generated in response to a question regarding differential diagnosis or management. Concept maps were evaluated by Novak's method in which concept links and concept hierarchy are scored based on accuracy and complexity.

Student and faculty feedback was solicited on perceived value of the learning method and its effect on attitudes toward learning.

Evaluation of results and Impact

Students in the study group scored better on the combined SAQ and EMQ assessment ($84.6 \pm 16.2\%$ vs. $71.06 \pm 7.72\%$, $p < 0.001$). Concept maps, matched by study topics across study and control group, scored 82.73 ± 1.56 and 73.96 ± 1.50 , respectively. Students perceived the CBL method to be a valuable learning activity which improved clinical reasoning skills, increased their competence and motivated them to learn. Students also indicated that CBL trained them in self learning skills and improved their attitudes towards medical education. Faculty found the program time intensive, but noted that students appeared to have more active involvement in patient management. This pilot program is the first attempt to use CBL in a clinical clerkship in India. Student knowledge and the integration of that knowledge appears to be enhanced, and both students and faculty had a positive attitude toward the innovation.

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