

# Medical Education

## A needs assessment study of undergraduate surgical education

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### ABSTRACT

**Background.** A needs assessment is the process of identifying performance requirements or 'gaps' between what is required and what exists at present. To identify these gaps, the inputs of all stakeholders are needed. In medical education, graduating medical students are important stakeholders who can provide valuable feedback on deficiencies in their training.

**Methods.** To know the students' perceptions about the effectiveness of their surgical training, an anonymous questionnaire seeking their opinion on the duration, content, methods of teaching and assessment was administered. Their responses were analysed using descriptive statistics.

**Results.** The students were largely in favour of active methods of learning and there was very little preference for didactic lectures. For clinical teaching, involvement in ward rounds and patient care activities, in addition to case discussions, was considered to facilitate learning. A clerkship model of clinical training was favoured. Any teaching-learning activity in small groups of 8–10 students was preferred. As regards their evaluation, besides internal assessment, the students felt the need for direct constructive feedback from teachers on how to improve their performance. A large number (73.5%) were opposed to attendance being considered a qualifying criterion for taking the examination.

**Conclusion.** Students' feedback about their 'perceived needs' should be considered when revising training programmes.

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### INTRODUCTION

There is an ongoing discussion on revising the MB,BS curriculum in different subjects, as well as the appropriate methods of instruction. There is also a felt need to integrate various newer skills, such as ethics and professionalism, communication skills and bioinformatics, in undergraduate education. However, it is not feasible to integrate newer concepts and make appropriate curricular changes without removing what is redundant in the existing programme.

Revising a curriculum requires inputs from all stakeholders.<sup>1</sup> Generally, in professional courses, the training programme is based on what educators or policy-makers feel are the 'prescribed needs' of students. The 'perceived needs' of the students with regard to what and how they should learn are not given due consideration. Many studies report that graduating class students can provide valuable feedback on deficiencies in their training

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programmes.<sup>2–4</sup> This information can be used to identify areas in which either the objectives or methods of teaching require change.

Currently, undergraduate training in surgery, as recommended by the Faculty of Medical Sciences, University of Delhi, covers 300 hours of theory and 26 weeks of clinical teaching. The theory teaching covers lectures, tutorials and student seminars. Clinical postings start from the third semester and cover the outpatients department (OPD), wards, operation theatres (OT), as well as time in a skills laboratory.

To ascertain the opinion of medical students on the adequacy of their surgical training, we collected students' feedback on the course content, method of teaching, and assessment of their performance so as to identify areas for improvement.

### METHODS

This study was done in the Department of Surgery, University College of Medical Sciences and Guru Teg Bahadur Hospital, Delhi. Approval from the institute's ethics committee was obtained. A total of 100 students (final professional students and interns) were enrolled and written informed consent was obtained.

A questionnaire with 20 items was designed to evaluate the theory as well clinical teaching of surgery, with special emphasis on obtaining suggestions for improvement. The questionnaire had multiple-choice and a few open-ended questions. Twenty students, selected randomly, were interviewed to understand the rationale behind some unexpected responses. The data were analysed using descriptive statistics.

### RESULTS

#### Theory teaching

Of the 100 students, 83 returned completed questionnaires. Almost half the students (45%) felt that the duration of theory teaching should be reduced and 14% said it should be reduced from 300 hours to 200 hours. Sixty-six per cent ( $n=55$ ) of the respondents thought that 5%–15% of the topics were redundant. With regard to the method of instruction, 59% ( $n=49$ ) preferred tutorials and 28.9% ( $n=24$ ) preferred lectures. Student seminars were the least favoured—only 9.6% ( $n=8$ ) stated these as their first preference (Table I). The majority of students did not favour seminars as they were a passive exercise for all but the presenters. At present, tutorials in surgery comprise about 15%–20% of the theory teaching hours and are almost never held in small groups. On interviewing

TABLE I. Students' preference for theory teaching methods

Method	Students' preference, $n$ (%)		
	First	Second	Third
Lectures	24 (28.9)	37 (44.6)	22 (26.5)
Student seminars	8 (9.6)	27 (32.5)	48 (57.8)
Tutorials	49 (59.0)	20 (24.1)	14 (16.9)

TABLE II. Students' preference for various clinical training methods

Posting	Students' preference <i>n</i> (%)			
	First	Second	Third	Fourth
Ward	44 (53)	26 (31.3)	11 (13.3)	2 (2.4)
OPD	37 (44.6)	37 (44.6)	7 (8.4)	2 (2.4)
OT	2 (2.4)	5 (6.0)	23 (27.7)	53 (63.9)
Skills laboratory	6 (7.2)	13 (15.7)	39 (47.0)	25 (30.1)

the students, it was found that they had tutorials in small groups in one of their paraclinical subjects and felt these were very useful.

On how to improve their learning in theory, the students suggested interactive teaching (47%), case-based lectures (20%), topics for self-learning (18%), and lectures of a shorter duration (14%) with more audiovisual inputs.

#### Clinical teaching

Eighty-two per cent felt that clinical teaching should be increased by an hour or two. For teaching, wards were the first preference of 53%, while OPD was the first preference of 45% (Table II). OT was rated poorly by 63.9% because of minimal interaction and inability to see a procedure completely, as major procedures would continue well beyond the allotted 3 hours of posting.

As for the wards, 72.3% of the students felt they could learn better if, besides discussing cases, they could see patients on ward rounds in batches of 5–10 students. Joining the ward round was useful in giving them a bigger picture and helping them understand both the how and why of a clinical case. Involvement in patient care activities was also desired by many. Seventy-four per cent felt that a larger amount of clinical posting time during the final year would be helpful, since they tend to focus more on other subjects during the earlier semesters.

#### Attendance and feedback

A large number of students (73.5%) were opposed to attendance being a qualifying criterion for taking the examinations. The students felt that although this forces them to attend lectures, their presence is merely physical and they are not attentive. A few students suggested that mandatory attendance should be reduced from 75% to 50%.

The students felt that the feedback on their performance, which is largely in the form of display of marks on the notice board, does not convey to them the areas they need to improve upon. They wanted more positive, constructive, direct feedback. They were in favour of the Internet as a potential medium for more direct communication with the teachers. Many wanted an improved mentor–scholar relationship.

#### DISCUSSION

There is growing awareness that a learner's views of educational experiences are important in improving the educational process. Unlike in the past, when the education system was teacher-driven, students must be given an opportunity to decide what and how they want to learn. Though not everything they perceive or suggest may be valid, their responses do reflect their learning needs.

Our respondents felt that there was redundancy in the surgery curriculum. This is relevant, considering that past curricular revisions have usually added to the existing content without removing what is outdated. An extensive revision may make the curriculum more efficient.

Students preferred active learning methods to lecture-based teaching. Similar views have been expressed in other studies, too.<sup>5,6</sup> Lectures were considered the preferred method of instruction by only 29% of the students. Most students attended lectures only for the sake of attendance. Hence, there is a definite need to switch from lecture-based to student-activated methods of teaching. Didactic lectures should be kept to a minimum. Problem-solving/case-based lectures, tutorials in small groups or even the introduction of a problem-based curriculum may make learning more useful.

To improve learning, students wanted more time for clinical postings and were in favour of greater participation in ward rounds and patient care activities. They felt this would help them bridge the gap between theory and practice. This is in keeping with the clerkship model of clinical training, in which a student is involved in the process of care as a team member in investigation, management and basic procedures. The clerkship model is an accepted method of clinical training in many medical schools around the world.<sup>7,8</sup>

The students preferred teaching in small groups as this allows for more direct interaction between the student and the teacher. This is possible by maintaining a proper student–teacher ratio.

Finally, the assessment of students should be more comprehensive. Teachers should be able to point out areas where students need to work more to attain the necessary knowledge, skills and attitude for handling clinical cases with confidence. A clerkship model of clinical training should be able to give the teacher a chance to assess a student more thoroughly and give more constructive feedback.

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