

Postgraduate education in anaesthesiology - present scenario

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INTRODUCTION

In India, about 64,000 postgraduate seats (in all broad specialities) are available annually for 1 lakh undergraduates who complete their Bachelor of Medicine and Bachelor of Surgery (MBBS) courses. Postgraduate seats in Anaesthesiology are approximately 4700. Competency-based medical education (CBME) was introduced in 2022 for postgraduate education in India. Subsequently, various regulations related to teaching and training programmes have been passed by the National Medical Commission (NMC).

IMPARTING ACADEMIC KNOWLEDGE TO POSTGRADUATES

Traditionally, teaching is based on psychological theories of behaviourism, which emphasise repeated conditioning as a means of instruction. Recent teaching methods are based on the psychological theories of constructivism, where it is theorised that adult learners actively construct their knowledge. Here lies the distinction between childhood learning, which is more instructive, and adult learning, which is more self-directed.^[1] Traditionally, teaching methods were teacher-centric, including table-side teaching, didactic lectures, seminars, and case presentations. These now give way to learner-centric approaches like small group

discussions, skill-based learning, and problem-based learning. The comparison between the teacher-centric and learner-centric methods is described in Table 1. The evolution of science and technology has led to a greater emphasis on integrating research methodology, communication skills, and teamwork into patient management across all hospital departments.

Recent curricula are learner-centric, and NMC has proposed CBME. It has gained prominence, focusing on cognitive, affective, and psychomotor domains. CBME defines core competencies in all these three domains and emphasises that postgraduates must be proficient in these competencies. The curriculum suggests a time frame for achieving these competencies and sets specific goals to be completed at the end of three years.^[2] The competencies are divided into theoretical aspects and skill-related aspects. It also suggests the competencies that can be completed each year in the three years of study. CBME emphasises teaching both technical and non-technical skills to students.^[3,4] The non-technical skills such as attitude, ethics, and communication (AETCOM) are imperative in making postgraduates in anaesthesiology empathise with patients regarding their condition and financial status, bringing out their rational decision-making and leadership qualities.^[4,5] The main advantage of CBME is that it emphasises delivering well-rounded anaesthesiologists rather than those with just

Table 1: Comparison between teacher-centric and learner-centric methods

Teacher-centric methods	Learner-centric methods
Emphasises delivering knowledge	Takes into account the student's interest
The teacher decides the topics and teaches	The students discover and try to learn
The student has the role of listening/passive	The student takes an active role.
Only facts are taught.	Creative learning
Overt control	No rigid controls
More dependent on external awards	Self-motivated
Decisions are taken by the teacher.	Students are also involved in decision-making.
There is competition among students.	Students learn to work with each other.
Regular testing is used.	Not regular
Respects only able students	Individualistic, and all students are equal.
Separate classrooms	Open classrooms
Teacher is the distributor of knowledge, skills, etc.	Teacher is only the guide

theoretical knowledge. It provides more flexibility so that students can learn at their own pace. Mentorship, individual supervision, and day-to-day assessment of progress are components. Teachers will be guides and will facilitate active learning. Professionalism, communication, and social behaviour are included in CBME as the AETCOM module will help anaesthesiologists fulfil the implied contract with society to meet health needs. The AETCOM module is an essential component of the undergraduate curriculum.^[6] Simulation training is also making its way into undergraduate and postgraduate curricula, providing a safe environment for students to learn without risking harm to patients or themselves.

RESEARCH METHODOLOGY

NMC has mandated that postgraduates complete an introductory biomedical research course designed by the Indian Council of Medical Research. This requirement extends to both teachers and students.^[4,5] Societies like the Indian Society of Anaesthesiologists (ISA) organise workshops in biomedical research. Teacher motivation would go a long way in teaching the finer aspects of research among postgraduates. Harsoor *et al.*^[7] have described in detail the aspects of writing a dissertation.^[7] Recent proposals to NMC include eliminating the need for a dissertation and mandatory publication of a research article. Journal clubs, traditionally aimed at embracing medical advances, can also be utilised to teach research methodology.^[8]

MENTORSHIP PROGRAMMES

The mentors may be a part of the teaching faculty to whom a student is assigned, and they must provide career advancement suggestions and psycho-social

support.^[9] Studies have concluded that mentorship programmes improve postgraduate students' theoretical, clinical, and professional achievement.^[10] Mentorship programmes in India are implemented in very few institutes. Effective use of these programmes in India may further improve the outcome among our postgraduates.

CHALLENGES

Duration of the Courses: The varying duration of courses creates conflicts and dilemmas in students' minds regarding career prospects, personal interests, and course availability. A standardised system could alleviate these concerns, but solutions are currently unavailable. Career prospects are also influenced by the course duration and whether an anaesthesiologist is trained to handle specific super-specialties, especially in corporate and more prominent institutes.^[11]

Attrition Rates among postgraduates: Studies in Western countries have shown that higher attrition rates among anaesthesiology residents are related to lower consultation fees.^[12] Such studies are unavailable in India, and it is possible that a similar trend could emerge in the Indian context in the future.

Training Methods: Challenges remain in training teachers, adopting modern teaching methods, and maintaining the integration of e-learning platforms beyond exceptional circumstances.^[13]

DISTRICT RESIDENCY PROGRAMME

The success of this initiative will depend on careful planning, adequate supervision, and robust mechanisms for feedback and improvement. Over time, the impact of this exposure on the student's skills, adaptability, and patient care outcomes will

become evident, contributing to the overall evolution of postgraduate anaesthesiology education.

CONCLUSION

The postgraduate anaesthesiology education is evolving. Institutions and educators must adapt to newer teaching methods, instil research proficiency, enhance communication skills, and integrate simulation training to maintain international standards. This evolution is essential to produce well-rounded, skilled anaesthesiologists who meet global healthcare demands.

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