

Summative to Formative Assessment: The Road to Competency Based Education.

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ABSTRACT

Medical education in India has undergone innumerable changes in the recent years. However the ultimate goal of Indian medical education system is to produce an "Indian Medical Graduate" who can provide holistic health care to the people of India and the world. Community medicine is a medical science specialty which plays a major role in achieving this goal. However there is a big yawning gap between the curriculum taught and the assessment methods which hinder our way to the goal. Among the various competencies expected out of an undergraduate only few are assessed in the routine internal and summative assessment examinations conducted. The key areas like communication, attitude, professionalism, leadership qualities, working as a team and inclination to scientific research has to be addressed. Formative assessment like 360 degree assessment, experiential assessment, portfolio can help us realize our dream of creating Indian Medical Graduates, the Primary Health Care physicians of India.

Keywords: Competency, Community medicine, Formative assessment, Indian Medical Graduate.

INTRODUCTION

Medical education has existed in India from time immemorial. India has produced many competent surgeons and physicians since vedic times. Since then many changes have occurred in the medical curriculum. The recent curriculum has incorporated newer teaching elements like- integrated teaching both vertical and horizontal, early clinical exposure, foundation course for the fresher's and so on. The ultimate aim of medical education in India is to create an "Indian Medical Graduate- IMG" with the necessary competencies to assume his or her role as a health care provider to the people of India and the world.^[1] Competency in medical education is defined as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in general practice for the benefit of the individual and community being served".^[2] Competence depends on using expert scientific, clinical, and humanistic judgment to engage in clinical reasoning.^[3-6] And the branch of medicine which plays a vital role in creating competent Indian Medical Graduate is Community Medicine.

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Community Medicine is mainly concerned with the health of community. The mission of Community Medicine teaching is the development of a holistic medical professional, who will demonstrate knowledge and competence with compassion in dealing with primary health care, desire for lifelong learning, evidence-based practice, interdisciplinary team work, and professional and ethical behavior in practice in order to improve and sustain the health of the population.^[7] In India the under graduate medical student learns the concept, principles and practices of community medicine throughout the undergraduate period and takes up the final exam in the third year. The objectives of undergraduate community medicine teaching are to create an undergraduate who should be:^[1,7]

1. Competent in diagnosis and management of common health problems of the individual and the community at the primary, secondary or tertiary levels
2. Competent to practice preventive, promotive, curative and rehabilitative medicine in respect to the commonly encountered health problems.
3. Able to appreciate the socio-psychological, cultural, economic and environmental factors affecting health and develop humane attitude towards the patients in discharging one's professional responsibilities.
4. Oriented to the prevailing three tier health care system of India.

5. Possess the attitude for continued self-learning and to seek further expertise or to pursue research
6. Familiar with the basic factors which are essential for the implementation of the National Health Programmes
7. Able to acquire basic management skills in the area of human resources, materials and resource management related to health care delivery.
8. Able to identify community health problems and be able to work as a leading partner in health care teams and acquire proficiency in communication skills.

ASSESSMENT METHODS

In a subject with vast scope, the assessment methods are still primitive. Tests used are:

1. Few internal assessments (formative assessment)
 2. Qualifying exam (summative assessment)
- It is of utmost importance to differentiate clearly the summative assessment to the exams which will guide the students and offer continuous feedback (formative assessment) as they produce different effects on student's behavior. Summative assessment makes an overall judgment about competence, fitness to practice or qualification for advancement to higher levels of responsibility. It covers broad range of subjects at the end of the course, where there is comparison with peers & results in a pass / fail.^[8] It tests the performance of an individual on a given day and does not test the individual in depths. Whereas, Formative assessment is defined as "the process used by the teachers and students to recognize and respond to student learning in order to enhance that learning, during the learning."^[9] Formative assessments provide benchmarks to orient the learner who is approaching a relatively unstructured body of knowledge. They can reinforce students' intrinsic motivation to learn and inspire them to set higher standards for themselves.^[10] Although summative assessments are intended to provide professional self-regulation and accountability, they may also act as a barrier to further practice or training, forcing them to learn without actually learning.^[11] Also Formative assessment is a crucial part of the educational process, especially where complex affective areas (humanistic approach), communication skills and ethical practices are to be mastered.

CURRENT ASSESSMENT IN COMMUNITY MEDICINE IN INDIA

The present day assessment, be it formative or summative in community medicine in India can be broadly classified into two types:

1. Theory examination

2. Practical examination

Theory examination/ written examination:

Theory exams are nothing but written tests which mainly assess the knowledge domain of the students. In most of the universities, the theory exam consists of essay questions, short notes and short answers. These assessment methods have the advantage of being relatively easy to frame and test knowledge and reasoning. The main disadvantages of these assessment methods are the limited range of application and lack of objectivity.

Practical exams:

The practical exams in community medicine consist of the following:

- a. Clinico social case presentation
- b. Epidemiological and biostatistics problems
- c. Objective structure practical exam (OSPE)
- d. Spotters
- e. Viva voce

These assessment patterns help in the assessing verbal skills. It may also assess interaction skills and student's ability to apply their knowledge and problem solving skills.^[12]

Pit Falls of the Current Assessment System:

The current assessment assess the students knowledge, recall, clinical reasoning, analytical skills and to some extent the communication skills. But in a subject with wider scope and competencies, it is not enough to just assess the above said in a student who is going to be the first – contact or the primary care physician. The key areas like communication, attitude, professionalism, leadership qualities, working as a team and inclination to scientific research has to be addressed. Also it is of vital importance to provide feedback to the student, the ways and means to improve learning and acquisition of the necessary competencies. Formative assessment with effective and timely feedback can bridge this gap.

Formative Assessment in Community Medicine- Newer Assessment Techniques:

As touched on previously, formative assessment is assessment for learning^[8] and has been identified to have tremendous educational connotations on the degree of learning and has been recommended as an integral part of the curriculum rather than just an "add on".^[13] Formative assessment can be incorporated into the regular medical curriculum without conducting as a separate entity. In most of the universities in India, the medical students are posted in the community department from the first year onwards. During these clinical postings the key competencies listed before can be taught and assessed regularly hand in hand with effective feedback.

Experiential assessment can be followed both inside and outside the class room. And it would be ideal if the student performance is observed and assessed in

the community settings. Structured direct observations with checklist can assess the communication skills and clinical skills. Peer assessment can also be done. The ratings and comments by the faculties in a timely manner will be insightful and instructive to the students.

Communication skills can be assessed in skills lab, with communities becoming the skills laboratories. The students can perform task on people in the community or patients which offers opportunity for self critique, critique by the peer and or by the faculty.

Patient management, decision making / making community diagnosis, inclination to scientific research and interpretation of statistical data can be learned through case studies, project work, exposure to role models, role play, workshops, and seminars. The same can be assessed by student's active participation in these learning sessions and faculty giving feedback on their performance.

Standardized patients with objective structured practical exams will help to assess student's clinical skills, interpersonal behavior, and communication skills. Interactions with standardized patients can be tailored to meet specific educational goals, and the standardized patients can reliably rate students' performance. And the observing faculty can offer additional insights on student's clinical judgment, overall coherence of the history taking or physical examination and attitudes like empathy.

Multi source (360- degree) assessments by peer, other members of the clinical team, and patients can help to assess student's work habits, capacity for teamwork, communication skills and interpersonal relationship. These assessment methods can be made highly effective by including narrative comments and constructive feedback. It should also be accompanied by good mentoring and follow up for effective intervention and implementation.^[14]

And finally portfolio can be used to assess all aspects of competencies as they include documentation of and reflection about specific areas of a student's competence.^[15] Portfolio includes chart notes, referral letters, procedure logs, videotaped consultations, peer assessments, patient surveys, literature searches, quality-improvement projects, and any other type of learning material. Portfolios also frequently include self-assessments, learning plans, and reflective essays. Portfolio assessment is intimately linked to self directed learning and is most useful for evaluating mastering of competences that are difficult to evaluate in other ways such as practice-based improvement, use of scientific evidence in patient care, professional behavior and patient advocacy.^[16] It is an effective assessment tool for community medicine specialty as various key areas and competencies of the students can be evaluated and documented simultaneously from the first year of their medical schooling till their internship.

These formative assessment methods can be done during their regular rotatory clinical posting in community medicine. Feedback should be immediately given to the students based on their performances. Feedback is the single most important factor that has shown to have the maximum impact on student learning and accomplishment and determines the effectiveness of the formative assessment.^[17,18]

And most importantly it is not just the assessment methods that have to be revamped but also the teaching/learning methods have to be restructured. The curriculum should be made dynamic and medical advances should be incorporated at regular intervals. It should be kept in mind that medical student is an adult.^[19] Inclusion of formative assessment into the curriculum requires commitment of the Medical institutions to support all activities for its implementation. Within the guidelines provided by the regulating bodies, institutes should integrate formative assessment into their curriculum using unique and time tested strategies.

CONCLUSION

Community medicine, a subject with vast scope and hope plays a vital role in creating the "Indian Medical Graduates" with the necessary competencies (knowledge, skills, and attitudes) to assume his or her role as a health care provider to the people of India and the world. There is a big gap in the current scenario between the goal of community medicine and its assessment methods. In addition to the traditional summative and internal assessment methods, formative assessment has to be formally included in the medical curriculum to bridge this gap. Formative assessment with newer methods like portfolio, multisource assessment, and constructive feedback can bring in better learning and understanding and make the undergraduate education more appropriate for the current needs of the people.

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