Guest Editorial

The Competency-Based Medical Education Curriculum: An Appraisal of the Remedial Measures for Internal Assessment

The competency-based medical education (CBME) curriculum is designed to identify the desired outcomes, define the level of performance for each competency, and develop a framework for assessing competencies. Currently, CBME is adopted by many universities in different countries around the world, and recently, the Medical Council of India (MCI) has recommended its implementation in 2019.[1] CBME is learner-centric and focuses on competencies (outcomes) as end points. In this new form, the curriculum is designed to impart knowledge and skills necessary for an Indian Medical Graduate (IMG). The internal assessment (IA) is embedded in curriculum providing continuous evaluation of student’s performance and is given greater emphasis. Despite these advantages, there are many concerns and challenges to the implementation of CBME curricula which include increased administrative requirements and need for faculty development. There is also a concern about the reductionist approach to assessment in CBME.

How is Internal Assessment in New Curriculum Different from that in Existing One?

The new curriculum emphasizes a cutoff pass level of IA as 50% which is consistent with the CBME curricula in African and other countries.[2,3] The original Graduate Medical Education Regulations-1997 required a “student must secure at least 50% marks of the total marks fixed for internal assessment in a particular subject in order to be eligible to appear in final university examination of that subject.”[4] This regulation continued till 2003, wherein it was substituted in terms of Gazette notification dated October 16, 2003 to, “student must secure at least 35% marks of the total marks fixed for internal assessment in a particular subject in order to be eligible to appear in final university examination of that subject.” Thus, the 35% marks of IA became an eligibility criterion to appear in university examination in that subject. The differences between IA in two curricula are stated in Table 1.

From Table 1, It is clear that there is provision of remedial measures after completion of training for the students who have not scored qualifying marks or have missed on some of the assessments due to any reason. The university shall guide the colleges regarding formulating policies for remedial measures.[5] However, the details of remedial measures to be taken are left to the institution/university.

When to Take Remedial Measures?

The new curriculum envisages taking remedial measures after a student has completed training but has not become eligible for appearing in university examination. Thus, it is important to ascertain the timing of this remedial action.

Example

The first MBBS university examination shall be held in September 2020. The student must have taken third IA in August 2020 so that final IA is announced. In general, a period of 2 weeks is provided to the students for preparation of university examinations. Thus, remedial measures could be taken during this period for students achieving IA marks between 40% and 50% so that student becomes eligible to appear in university examination. There are a few concerns to ponder over. One is that such students would be tensed and stressed to achieve targeted 50% in remedial examination in one to three subjects and simultaneously to prepare for university examination. This would be all the more important during second professional MBBS training, wherein, as per new curriculum, he has already appeared in 19 IA-tests in 11 months![6] There is evidence that examination anxiety interferes with academic performance.[6] Another point is how can one acquire competence and skills during a short span of 15 days which he/she otherwise has not been able to achieve in 12 months?

Whom to Administer Remedial Test?

Table 2 shows the possible outcomes of the IA taken by the students. There could be a number of situations. A student may get <40% marks, assigned for IA, in theory, practicals (Case-C), or both (Case-D). Thus, the remedial tests will have to be arranged for theory, practicals, or both, for all those who scored <40% in theory and/or practicals/clinicals in one or more subjects in a phase.

What Constitutes Remedial Measure?

In simple terms, a remedial measure is done to improve or correct performance and to assist students in order to achieve expected competencies. The new curriculum has left the onus of taking such measures to the institution/university. Does it mean to administer a full-fledged examination annulling the previous low score or a form of such examination to make up for the deficiency? In other words, will it be a supplementary IA or
Table 1: Internal assessment - differences between existing and new competency-based medical education curriculum

| Item                        | GMER 1997                                                                 | CBME 2019                                                                 |
|-----------------------------|---------------------------------------------------------------------------|--------------------------------------------------------------------------|
| IA                          | Based on performance in preparations of seminar, case discussion, clinical case study/problem-solving exercise, participation in project for health care in the community (planning stage to evaluation), and proficiency in carrying out a practical or a skill in small research project | Based on assignments, seminars, clinical case presentations, problem-solving exercises and project preparation, day-to-day records, reflective writing, and log book |
| Number of periodic assessments defined | Left to the institutions/universities                                      | No less than three IA examinations in pre- and paraclinical subjects and no less than two examinations in each clinical subject in each professional year. One of the tests should be prelim or preuniversity examination |
| Weightage of IA of total marks | 20%                                                                       | 40% separately in theory and practicals/clinicals and 50% of total marks combined in theory and practical/clinical |
| Eligibility criteria to appear in university examination | At least 35% marks of the total marks (theory + practical) fixed for IA | Mandatory, at least 50% marks (combined in theory and practical) of the assigned internal marks. The IA marks will reflect as separate head of passing at the summative examinations |
| Pass criteria | None                                        | Nil                        |

Remedial measures | None                                      | To achieve prescribed 50% marks in IA |

IA: Internal assessment, GMER: Graduate medical education regulations, CBME: Competency-based medical education

Table 2: Remedial tests

| Case | Theory (%) | Practical/clinical (%) | Total (%) | Remedy to qualify |
|------|------------|------------------------|-----------|-------------------|
| A    | 50         | 50                     | 100       | Nil               |
| B    | 40         | 60                     | 100       | Practical retest  |
| C    | 60         | 30                     | 90        | Practical retest  |
| D    | 30         | 34                     | 64        | Theory/practical retests |

remedial IA? The Rajiv Gandhi University of Health Sciences has recommended another IA as remedial measure to secure aggregate 50% marks.[7] This recommendation was in consonance with the recommendations in curriculum implementation support program (CISP) document before publication of MCI’s Assessment Module-3. Similarly, Maharashtra University of Health Sciences, Nasik, in its first professional MBBS curriculum advocates a remedial IA examination for students who did not score aggregate 50% (combined in theory and practical) for the subject. The remedial IA should be organized by the college immediately after the completion of university examination of the affected students. Such a remedial examination shall be conducted by allocating only 3 days per subject without any gap (2 days for theory and 1 day for practical). This recommendation was also made before release of MCI Assessment Module-3.[8]

Potential remedial measures include written test (SAQs, MCQs), OSPE/OSCE stations, structured viva voce, and bedside assessment. Badyal and Singh opine that remedial measures be predecided and individualized based on students’ requirements.[9] However, individualization would lead to tailor-making of test and more faculty requirement and commitment. Measures would depend on the number of subjects and timing of such measures as described above. It is feared that such individualized tests may not be valid or objective. The retest for remedy shall be an extra effort, and the department has to make necessary arrangements for theory and practical retests during teaching hours, and this is likely to affect the completion of curricula as prescribed in CBME. It would be more challenging in clinical subjects. To avoid such extra efforts, institutions and faculty may assume a perfunctory role in just fulfilling the requirement of 50% by devising viva voce or small group discussions. Viva voce is subjective and includes errors relating to halo effects, central tendency (judgments cluster in the middle), a general tendency toward leniency, and errors of contrast. Viva voce examinations test lower taxonomic levels, mostly recall of facts.[10] It is also known that written examinations during periodic and continuous assessments improve performance in summative examinations in anatomy.[11] However, students will have to appear in yet another written examination and skill testing would be let as such. Therefore, introduction of remedial examination may not serve the objectives as envisaged in CBME.

There must have been an objective evidence for increasing cutoff from 35% to 40%, but this small increase may not offer advantage over the existing traditional curriculum. For example, as per GME-97, students who get 35% in IA become eligible for appearing in university examinations, but a good number of them finally fail because of poor performance in IA. Studies have shown a positive correlation between continuous IA and final university marks.[12,13] IA also reflects achieving
degree of competence and skills. Introduction of remedial measures, which to us is less likely to substantially improve their competence and skills, may lead to less competent students to pass the university examination.

**What is Way Forward?**

The university may decide to do away with remedial measures. However, this would deprive the deserving students of the opportunity to achieve qualifying marks in IA due to unavoidable reason/s. Provision for remedial measure for number of students who have not qualified in final IA implicates meticulous preparation of structured module for the assessment of knowledge and skills in a short spell of time of 1–2 weeks. To enhance utility of remedial measures, it would be prudent to administer them after administration of every test at term end and periodic examinations (during formative assessment). Providing structured feedback and remedial action will result in improvement of performance.[9] However, the exact modalities and timings remain to be finalized by the institution in close consultation with university. We are concerned about identifying the real utility of remedial measures in improving performance and producing competent IMGs.

Since IA can have construct validity and high predictive value for success in university examinations, we recommend that the eligibility as well as passing cutoff percentage marks for IA should be fixed at 50% without any provision of remedial measures. It will encourage the students to work harder throughout the course to achieve 50% marks, rather than depending on the remedial measures, thus producing a more competent IMG. Another advantage is that student shall not exert too much in university examination to compensate for the deficiency of IA marks to reach 50% passing criteria in summative examinations. With the likelihood of introduction of National Exit Test as a licentiate examination in near future, setting 50% IA marks as a passing criterion will provide a fillip for the students to work hard throughout the training period.

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