

**Original Article**

## **UNVEILING THE IMPACT: ANATOMY INTERNAL ASSESSMENT EXCLUSION IN MBBS FIRST PROFESSIONAL RESULTS**

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### **ABSTRACT**

**Introduction:** In 2019, the National Medical Commission (NMC) implemented the Competency-Based Medical Education (CBME) curriculum, altering teaching, learning, and assessment methods. Internal assessment marks, once contributing to final grades, now only serve as eligibility criteria. This study, conducted at the Department of Anatomy, HIMS, Safedabad, examines the impact of excluding internal assessment from MBBS 1st year students' final Anatomy marks.

**Materials and Methods:** This study assessed the performance of MBBS 2019 (CBME) and MBBS 2018 (old) batches in Anatomy. Parameters examined included: 1) first attempt exam clearance rates, 2) passage via grace marks, and 3) distribution of scores (students who scored >70%, between 60-70% and between 50-60%). Statistical analysis employed chi-square tests.

**Results:** In the MBBS 2018-19 batch, 86 out of 100 students passed Anatomy, compared to 94 out of 99 in the MBBS 2019 (CBME) batch. In the MBBS 2018 batch, excluding internal assessment would have resulted in 44 failures, reduced to 14 with inclusion. Chi-square tests demonstrated significant differences in scores and failure rates.

**Conclusions:** Excluding internal assessment markedly affected Anatomy exam outcomes, highlighting its pivotal role in MBBS 1st Professional success.

**Keywords :** Competency-Based Medical Education (CBME), Internal assessment, Anatomy, Medical education, MBBS curriculum, Student performance

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## **INTRODUCTION**

Assessment is derived from the Latin word “assidere,” meaning “to sit with.” Therefore, it is a collaborative process between educators and students, not something done to students [1]. Competency-based curriculum assesses learning longitudinally to identify needs, plan remedial measures, and provide learning opportunities [2]. An effective system of internal assessment is one that not only evaluates the knowledge of the learner but also the process by which it is acquired.

In August 2019, NMC introduced a competency-based undergraduate curriculum and adopted the longitudinal process to assess all competencies, thereby changing the teaching and learning method as well as the method of assessment [3,4]. Before 2019, the marks of internal assessment scored by students were previously added to the final award list. Now, from 2019, the internal assessment serves as an eligibility criterion only. It is not added to the final score but is reflected separately in the final mark sheet [4].

## **MATERIAL AND METHODS**

This study was carried out in the Department of Anatomy at HIMS, Safedabad, Barabanki. The marks obtained by the students of the MBBS 2018 batch (old batch - it followed the traditional method of assessment) and the MBBS 2019 batch (CBME batch - it followed the new CBME curriculum batch) were taken.

It was conducted to determine the effect of not including internal assessment marks in the final marks of MBBS 1st-year students in the subject of Anatomy. There were 100 students from the MBBS 2018 (old) batch and 99 students from the MBBS 2019 (CBME) batch.

The effects of this change in the method of assessment were evaluated based on the following criteria:

1. Percentage of students who cleared the exam on the first attempt in the MBBS 2019 (CBME) batch vs. MBBS 2018 (old) batch.
2. Percentage of students who finally passed through grace marks.
3. Number of students who scored >70%, between 60-70%, and between 50-60%.
4. Percentage of failed students in the MBBS 2018 (old) batch who passed due to the inclusion of internal assessment marks in the final award list. The above parameters were tabulated in a Microsoft Excel sheet. Statistical analysis was performed using the chi-square test, and the p-value was determined.

## **RESULTS**

More students passed in the MBBS 2019 (CBME) batch than in the MBBS 2018 (old) batch. In the first attempt, 95% of students passed in the MBBS 2019 (CBME) batch. Nine students scored more than 70% marks,

46 students scored between 60% to 70%, and 39 students scored between 50% to 60% marks. (Table 1)

In the 2018 (old) batch, only 86% of students passed in the first attempt. Only one student scored >70% marks, 20 students scored between 60% to 70%, and 65 students scored between 50% to 60% marks. (Table 1)

After re-evaluation, two students passed by grace marks in the MBBS 2019 (CBME) batch, taking the total pass percentage to 97%. In the MBBS 2018 (old) batch, seven students passed by grace marks, but seven students still failed. The total pass percentage now was 93%. (Table 1)

In the 2018 (old) batch, 45 students would have failed if the internal assessment had not been included in the final score of the assessment. When the internal assessment was included in the final score, only seven students failed, and the rest seven passed by grace marks. (Table 2) Statistical analysis of the number of students scoring more than 60% and between 50% to 59% in both the 2018 (Old) and 2019 (CBME) batch showed the chi-square test value as 25.969 with two degrees of freedom. The p-value was 0.00001, which showed a highly significant difference between the scores of both batches and a statistically significant difference between the number of students who failed. (Table 3)

MBBS Batch	2018-19(old batch)	2019-20 (CBME)
No. of students appeared	100	99
No. of students passed in 1st attempt	86	94
Percentage of students passed	86%	95%
No. of student with score >70%	1	9
No. of students with score between 60-70%	20	46
No. of students with score between 50-60%	65	39
No. of students who passed due to grace mark	7	2
No. of students Failed	7	3
Total pass percentage	93	97

**Table 1. Outcomes of assessment of MBBS 2018 (old) and MBBS 2019 (CBME) batch**

MBBS 2018 (Old) batch	
Total no. of students	100
No. of students who passed	93
No. of students Failed (supplementary)	7
No. of students who passed due to grace marks	7
No. of student who would have failed if internal assessment marks was not included in the final award list	45
Percentage of failed students who were saved due to inclusion of internal assessment marks	84.44%

**Table 2. Effect of inclusion of internal assessment marks on outcome of MBBS 2018 (old)**

	MBBS 2018 (old) batch	MBBS 2019 (CBME) batch	Chi Square Test, df	p-Value
No. of students with score >60%	21	55	25.969, 2	0.00001
No. of students with score between 50% to 59%	65	39		
No. of students failed	14	5		

**Table 3. Categories of students based on performance and their statistical analysis**

## DISCUSSION

The change in the method of assessment in the 2019 (CBME) batch is evident from the fact that the pass percentage was better in the 2019 (CBME) batch than the 2018 (old) batch, which did not follow the CBME curriculum. Out of 99 students of the 2019 (CBME) batch, 97 passed and were promoted to the second professional, and out of these, 55 students scored more than 60% in the first attempt in the first professional examination.

In this 2019 (CBME) batch, internal assessment was conducted throughout the year using different assessment methods for assessing different competencies. Internal assessment was conducted through various modes of online and offline examinations, and assignments were given after the completion of each topic. Both online and offline modes of teaching were used, along with demonstration videos shared for revision. Constructive feedback was provided, which improved the students' learning. Teachers

were able to guide the students to take remedial measures on time before the final exam [5]. It empowered them to understand and learn in a stress-free environment [4]. Teachers were able to gather more information on students' learning levels and their progress through logbooks, manuals, and seminars [6].

Out of 100 students, 93 students passed and were promoted to the second professional, and only 21 students could score >60%. In the traditional method, when the internal assessment was added to the final score, students were more stressed and anxious to score in the internal assessment throughout the year. The focus was more on scoring, and there was less involvement of students in self-assessment and reflections [4]. The results of our study indicated not only a better pass percentage but also a better score in the MBBS 2019 (CBME) batch. This contrasts with a study done in the Pharmacology Department at GMC, Jalgaon, Maharashtra,

where the MBBS 2018 (old curriculum) batch performed better [7].

## CONCLUSION

In the MBBS 2018 (old) batch, internal assessment was added to the final score, but fewer students were able to score >60%. Internal assessment in the MBBS 2019 (CBME) batch was important as a formative assessment. This helped the students to perform at an optimal level in the first professional examination. More students passed with better scores. This study pertains to the first batch of CBME. More studies on upcoming batches should be conducted to gain a better understanding of the benefits and disadvantages of internal assessment.

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