

Effect of Class Attendance and Academic Performance of First Year MBBS Students in Biochemistry Department: A Retrospective Observational Study

Narayan B. Narwade¹, Amita S. Billa², Udaykiran U. Bhalge³, Sachin S. Bhavthankar⁴, Nagesh A. Bhalshankar⁵

¹Associate Professor, Department of Biochemistry, MIMSR Medical College, Latur, Maharashtra, India, 413512

²Tutor, Department of Biochemistry, MIMSR Medical College, Latur, Maharashtra, India, 413512

³Associate Professor, Department of PSM, Dr. Rajendra Gode Medical College, Amravati, Maharashtra, India, 444602

⁴Professor and Head, Department of Biochemistry, MIMSR Medical College, Latur, Maharashtra, India, 413512

⁵Tutor, Department of Biochemistry, MIMSR Medical College, Latur, Maharashtra, India, 413512

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Corresponding Author: Mr. Nagesh A. Bhalshankar

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Abstract:

The medical education in India is rapidly progressing and improving since in last decade. A CBME pattern is teaching and internal assessment mainly focuses on the context of competency. In internal assessment a lot of emphasis and weightage are given to summative assessment examination of last three internals. A new professional MBBS curriculum is vast and emphasis has been laid down by the universities and regulatory bodies on attendance policies. Attendance during their undergraduate curriculum plays very crucial role in the later professional life. In the professional courses rule are regarding the attendance during lectures and practical is compulsory. The universities have mandatory attendance policies during lectures and practical sittings. Even though, student's absence is a continuing problem in medical education. A study was conducted in first year MBBS Batch (2021-22) of CBME pattern were included in the study. This batch had total 150 students they were further separated in two parts > 80% and < 80% class attendance in theory and practical at the time of first, second, preliminary internal and final university examinations. Students class attendances were compared with their exams result (Pass / Fail). The measureable data were analyzed by using chi-square test. The students with >80% class attendance were having more passing result as compared to those with <80% class attendance in their all internal assessments and final university examination. First MBBS student's entire academic performance was affected by their class attendance.

Keywords: Theory, Practical Internal assessments, Academic class attendance, academic performance.

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Introduction

The Medical Council of India (MCI) has recently introduced Competency Based Medical Education (CBME) pattern incorporating a new curriculum which is student centric and focuses on competencies as outcomes. Medical education in India is rapidly progressing and improving since the last decade.

The new curriculum is implemented with effect from 1st August, 2019 for first professional MBBS course. A CBME pattern is teaching and internal assessment mainly focuses on the context of competency and it emphasizes greatly on longitudinally integrated assessment termed as competency-based assessment (CBA) [1]. Internal

assessment is most important and essential component of any curriculum. It also plays the most important component role in the new curriculum. In internal assessment a lot of emphasis and weightage are given to summative assessment examination of last three internals [2,3].

The internal assessments conducted by the teachers teaching a concern subject with the express purpose of knowing what is learnt about it and how it is learnt. Internal assessment has formative and summative assessment functions [4]. However, the summative internal assessment examination at the end of the course only. The main focus of summative assessment is knowledge, to extent

psychomotor skills and it is very rarely affective domain for internal assessment.

On the other hand, internal assessment (IA) provides multiple opportunities for the assessment for example, competencies such as knowledge, skill, communication, attitude, ethics and professionalism. The IA provides a useful input in helping the students to learn the concepts of concerned subjects. It allows a longitudinal observation of the students [2,3]. IA is not (added) amini-university examination but looks at entirely different set of skills and competencies. Internal assessment marks are not to be added university examinations but should be shown separately in the grade card [4].

The students must appear for internal assessment (IA) examinations – first (IA), second (IA) and preliminary examination under the biochemistry department. A student must score 40% marks in the IA examination. Only then, they are eligible to appear in university examinations. In the university examination, the student passes after securing 50% marks in theory and practical examination [5].

A new professional MBBS curriculum is vast and emphasis has been laid down by the universities and regulatory bodies on attendance policies. Though most of the universities have kept 75% as the cut off for eligibility to appear in the university examinations, attendance during their undergraduate curriculum plays very crucial role later in their professional life. In the professional courses the rules are regarding the attendance during lectures and practical sessions is compulsory [6].

The universities have introduced mandatory attendance policies during lectures and practical sittings. Even though, student's absence is a continuing problem in medical education. These issues are important challenges for medical colleges in terms of implementing attendance policies [12].

This study was undertaken to determine the effect of class attendance on academic performance of first year MBBS students in the department biochemistry. To fulfill the aim, student's class

attendance in theory and practical at the time of first, second, preliminary internal and final university examinations were compared with their exams result (Pass / Fail).

Materials and Methods

The study was conducted in the department of Biochemistry of Maharashtra Institute of Medical Sciences And Research, Latur, Maharashtra, India and it was affiliated with Maharashtra University of Health Sciences, Nasik, Maharashtra, India.

Sample Size: Total 150 students of First year MBBS batch 2021-22 of CBME pattern were involved in this study.

Study Design: A retrospective observational study in which data of students attendance along with their results (pass/ fail) of theory and practical at the time of all the three internals (first, second, preliminary) and university examinations were obtained. The 150 students they were further separated in two parts based on attendance percentage, 1st part with more than 80% and 2nd part with less than 80% in theory and practical classes.

The data entered in Microsoft Excel sheet as attendance percentage and result obtained by the students in their examinations. The measureable data were analyzed by using chi-square test. Results were tabulated and significance difference was expressed according to ($p < 0.05$) significant and ($p < 0.001$) highly significant.

Results

After assessment of students class attendance and theory internal results we were observed that significant difference in first internal ($p < 0.046$), moderate significant difference in second internal ($p < 0.0033$) and highly significant improvement was in preliminary internal assessment ($P < 0.0002$). (Table No. 1) After comparing of students practical attendance with their practical internal examination results we were got the significant differences in first ($p < 0.035$), second ($p < 0.047$) and preliminary internal assessment ($p < 0.042$). (Table No. 1)

Table 1: First year MBBS student's class attendance and their examination result.

Theory				
First Internal Assessment				
Attendance in (%)	Students result		Chi-square value	p value
	Pass	Fail		
>80%	40	27	3.9543	p<0.046
<80%	36	47		
Second Internal Assessment				
>80%	59	33	8.5988	p<0.0033
<80%	23	35		
Preliminary Internal Assessment				

>80%	68	30	13.3998	p<0.0002
<80%	20	32		
Practical				
First Internal Assessment				
>80%	21	05	4.4343	p<0.035
<80%	116	08		
Second Internal Assessment				
>80%	83	01	3.9243	p<0.047
<80%	61	05		
Preliminary Internal Assessment				
>80%	105	01	4.1345	p<0.042
<80%	41	03		
University examination (Theory and Practical)				
>80%	81	20	6.1733	p<0.01
<80%	30	19		

p<0.05 = Significant, p<0.001= Highly Significant

In the present study we also focused on students overall attendance and final university examination result in that also we were saw the statistically significant difference in between them (p<0.01). (Table No. 1) In the entire academic year students with >80% class attendance were having more passing result as compared to those with <80% class attendance in their all internal assessments and final university examination. (Figure No. 1, 2, 3)

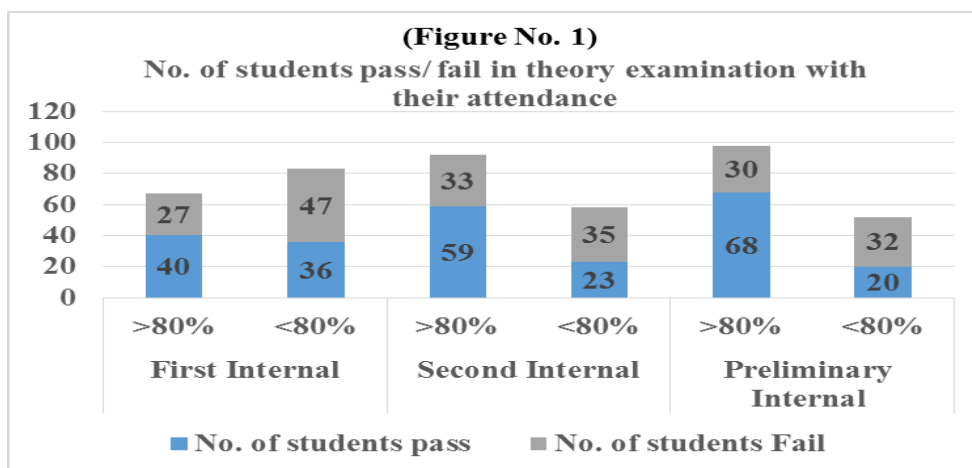


Figure 1: No. of students pass/fail in theory examination with their attendance

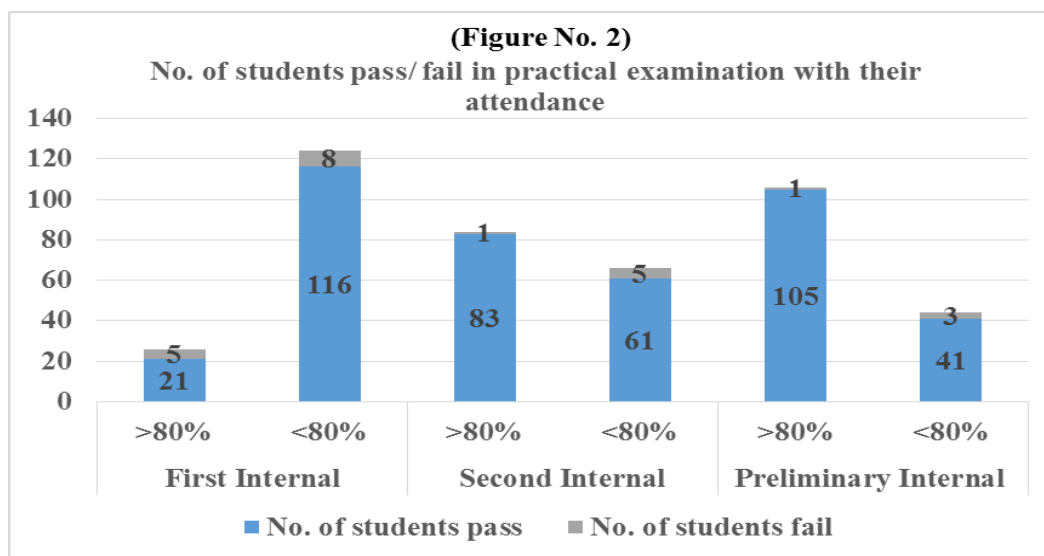


Figure 2: No. of students pass/fail in practical examination with their attendance

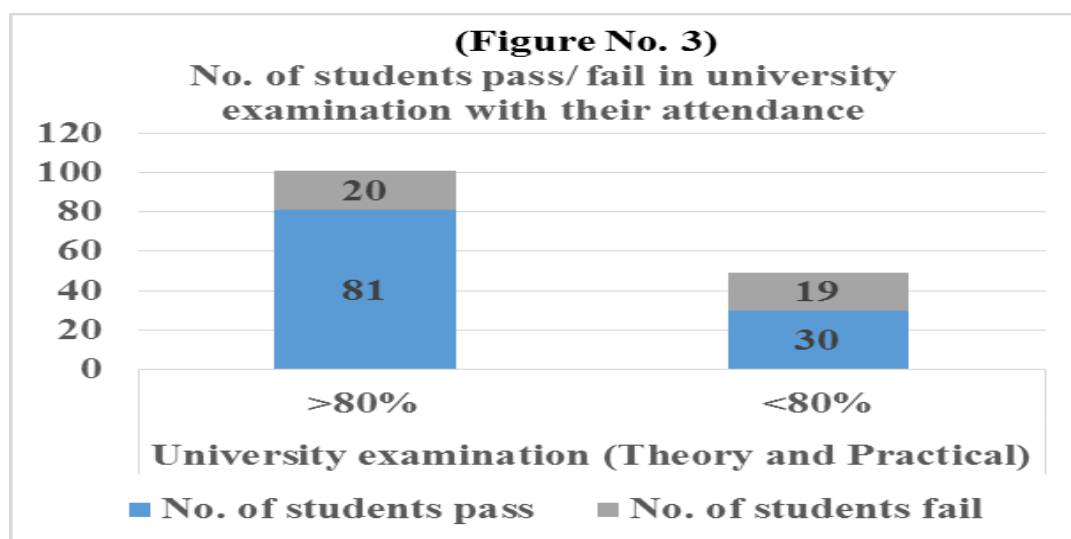


Figure 3: No. of students pass/fail in university examination with their attendance

Discussion

In professional courses like medical education require high attendance in theory and practical classes for better understanding of the subject and for acquiring skills for better performance in their later career life. Previous study suggests that absence in class affect their academic performance which is found to be directly related [12]. The most of the studies assess that the impact of academic class attendance on examination performance was more important in lecture based medical education. However, these studies shows that the relationship between separate, theory and practical academic attendance and comparison with academic internal assessment only.

Therefore, we done this study was to know whether in our setting class attendance had any contribution in first MBBS student's entire academic year performance along with their final university examination [7]. So, our aim was to determine the effect of class attendance on academic performance of first year MBBS students in the department biochemistry.

In our study we were saw that in theory internal assessments students with >80% class attendance having more number of passing and these number were goes on increased in first, second and preliminary internal assessments. In case of practical examination in first internal assessment students with <80% class attendance having more number of passing but this passing number goes on decreasing and at the same time numbers of passing students were increased with >80% class attendance in second and preliminary assessment. In the final university examination (theory and practical) also students with >80% class attendance were showing more passing result as compared to poor attendance. Over result was compared to the studies by Lima Koruthara Mohanan et al., [7] There was significantly higher passing percentage

in all the three (theory and practical) internal assessment examination with high attendance. Varul et al., [9] Reported that the significant positive correlation between attendance and academic performance in both theory and practical examination. Schmidt et al., [10] Stated that hours spent attending lectures and discussion classes positively affected course results, even after controlling for hours of study. Amini et al., [11] which shows the results of the students' academic success reveals that personal abilities, effort and endurance, attitude, beliefs and motivation, and supportive factors were significant for academic success. Although several confounding factors may affect academic outcome, class attendance has shown to have a consistent relationship with cognitive ability and academic outcome in students [12].

The mechanism through which class attendance effects academic outcome could be as follows. Class attendance affects cognitive and motivation of students. Both cognitive and motivation influence academic outcome by two different mechanisms. Cognitive abilities correlates with the degree of students to which are able to process, integrate and recall information given to them. Inspiration affects academic outcome by bringing about a behavioural change in the students that permit them to be self-directed learners⁸.

Conclusion

First MBBS student's entire academic performance was affected by their class attendance. This finding of study will be shaping institutional policies regarding students attendance monitoring. To establish an attendance monitoring tracking system for poor attendance students so that the action to be taken that of students. In academic activity address the issue at institutional level / concerned departmental level. Students are improve academic achievement, such as knowledge, skills,

communication, attitude, ethics, professionalism, personal competence, effort, endurance, confidence, motivation, it also improve mental and physical health.

Author's Contribution

- Dr. Narayan Narwade: Main topic concept and necessary input were given towards this study.
- Mrs. Amita Billa: Study design and reviewing the topic.
- Dr. Udaykiran Bhalge: Statistical analysis.
- Dr. Sachin Bhavthankar: Suggestion / Guidance.
- Mr. Nagesh Bhalshankar: Data analysis and preparation of manuscript.

Abbreviations:

MBBS – Bachelor of Medicine Bachelor of Surgery, CBME - Competency Based Medical Education, CBA – Competency Based Assessment, MCI – Medical Council of India, IA - Internal Assessment.

Statement of Similar Work: This paper contains original research and has not been submitted/published earlier in any journal and is not being considered for publication elsewhere.

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