

Original Research Article

**STUDY ON THE IMPACT OF ATTENDANCE ON ACADEMIC PERFORMANCE AMONG  
FIRST YEAR MEDICAL STUDENTS - A RETROSPECTIVE COHORT STUDY.**

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**Abstract**

**Background:** Absenteeism is one of the chief concerns in institutions of higher education especially in undergraduate medical education worldwide. A decline in students' attendance is also on the rise in medical colleges.<sup>[1]</sup> Medical teaching requires the student to have adequate attendance for proper understanding and for acquisition of skills.

**Aims & objectives:** The present study was undertaken to determine the impact of attendance on academic performance among first year medical students.

**Methods:** The study group consisting of 150 first year MBBS students, 49 boys and 101 girls with the mean age  $19.6 \pm 1.2$  years. The students were divided into 2 groups; group I having attendance  $< 80\%$  and group II with  $> 80\%$ . Academic performance was measured by taking the average of total marks scored in three internal assessments conducted in one academic year and it was categorised into  $>50\%$  and  $<50\%$  for analysis. Absenteeism score was measured by determining the percentage of attendance of each student throughout the academic year. A comparison was made between their attendance and their performance both in theory and practical exams.

**Results:** Data was entered into Microsoft Excel sheets. Chi-square test was used to measure

the association between student's attendance and student's performance. Results were tabulated, and significance was expressed ( $p < 0.05$  as significant and  $p < 0.001$  as highly significant)

A strong positive association was found both in theory and practical attendance and academic scores. The results of this study are consistent with the previous studies conducted by several researchers on class attendance and student performance in medical <sup>[2,3,4]</sup> and non-medical colleges<sup>[5,6]</sup>

**Conclusion:** This study found a strong and significant association between academic performances and absenteeism among students. Medical colleges should take some corrective measures to improve students' attendance as absenteeism may result in poor academic performance.

**Keywords:** Absenteeism, undergraduate medical education , Academic performance.

## Introduction

In medical colleges, lecture attendance has been declining over the years with evolving educational technology<sup>[7]</sup>. Attendance in theory and practical sessions is essential not only for the development of cognitive and psychomotor domain but also to develop their professionalism & critical thinking skills. Students' attendance is believed to be one of the major determinants of academic performance in undergraduate medical education. Significant learning occurs during the pre- clinical years as it lays the foundation for better understanding and acquisition of skills. Absence in various academic activities like group discussions, problem-based learning, and tutorials; apart from the didactic lecture contribute to significant academic loss for the student which may lead to decline in their performance. Several studies have reported that higher attendance leads to better academic performance in both theory and practical exams. <sup>[3]</sup>

The attendance is a more legitimate determinant in learning skills especially in medical course than scores in entrance examinations. Apart from attending classes regularly, formative assessment too are found to be beneficial as on one hand it highlights the present level of achievement of the students and on the other hand it helps the academician to give proper feedback to the students based on assessed work in order to aid their learning process.<sup>[2]</sup> Considerable relationship was observed between absenteeism and academic performance <sup>[7,8,9]</sup>. Even some of the renowned universities have increased their mandatory attendance percentage from 70% to 90% <sup>[4]</sup>. Analysis of the effects of attendance on academic performance revealed that attendance has a strong positive correlation with better academic performances. <sup>[9,10]</sup> However in a meta-analysis based on the impact of absenteeism on academic performance, no definite positive association was observed. <sup>[11]</sup>

## Material & Methods

This retrospective study was conducted in the Department of Physiology. A total 150 first year MBBS students' attendance in percentages and their respective academic performance was studied after the completion of first MBBS examination. They were divided into 2 groups; Group I students having attendance of less than 80 percent in theory and Group II students with more than 80% ,at the time of first formative / internal examination. Their attendance and performance pattern in second & third internal assessments was also studied. Comparison was done between their attendance and academic performances in all the three assessments. Similarly comparison was done between practical attendance and practical internal marks.

**Results:**

The data of attendance in percentages in both theory and practical and the marks obtained in all the three internal examinations were entered and percentages were calculated in Microsoft Excel. Chi-square test was used to measure the association between student's attendance and student's performance. Results were tabulated, and significance was expressed according to  $p < 0.05$  as significant and  $p < 0.001$  as highly significant.

Tables 1, 2 and 3 depict the comparison of performances in all three internal assessments (Theory) between group I and group II. It is observed that performance has strong association with attendance of students. Pass percentage is higher in students having attendance more than 80% in all three internal examinations.

Characteristic	>50% score	<50% score	Chi-Square value	p-value
Group: I (<80%)	24(16%)	39(26%)	4.2	0.03
Group: II (>80%)	48(32%)	39(26%)		

**Table/Fig 1: Comparison of performances in 1<sup>st</sup> Internal assessment (Theory) between group I and group II (n=150)**

Figure 1, depicts the comparison of performances between group I and Group II in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> internal assessment examinations. Pass percentages are high in students having attendance more than 80% and it was very obvious in third internal assessment where only 37% of students could clear the exam with less than 80% whereas 56% of students got through the exam with attendance more than 80%.

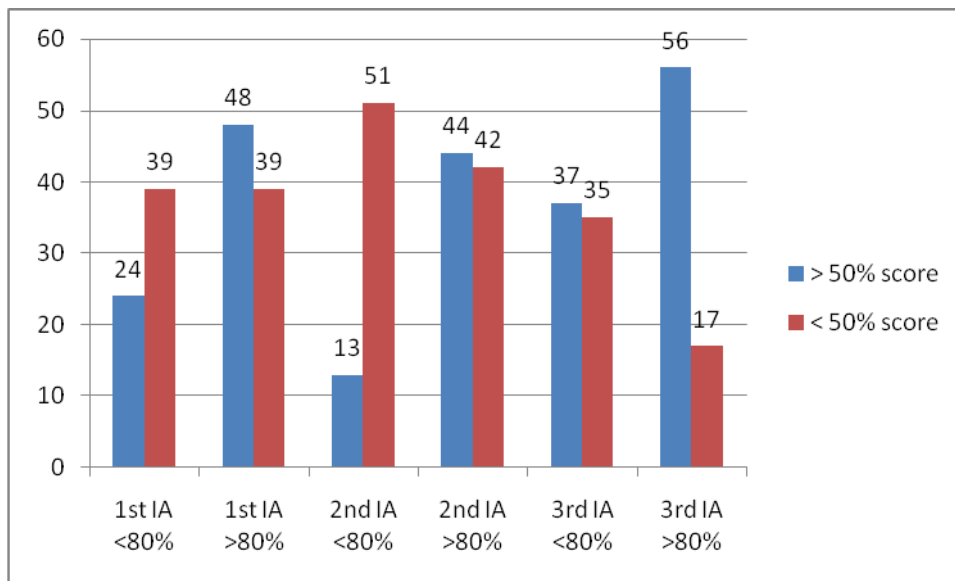
Characteristic	>50% score	<50% score	Chi-square value	p-value
Group I (<80%)	13(8.6%)	51(34%)	14.8	0.0001

Group II (>80%)	44(29.4)	42(28%)		
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**Table/Fig 2: Comparison of performances in 2<sup>nd</sup> Internal assessment(Theory) between group I and group II (n=150)**

Characteristic	>50% score	<50% score	Chi-square test	p-value
Group I (<80%)	37 (24.6%)	35 (23.3%)	10.1	0.001
Group II (>80%)	56 (37.3%)	17 (11.3)		

**Table/Fig 3: Comparison of performances in 3<sup>rd</sup> Internal assessment(Theory) between group I and group II (n=150)**



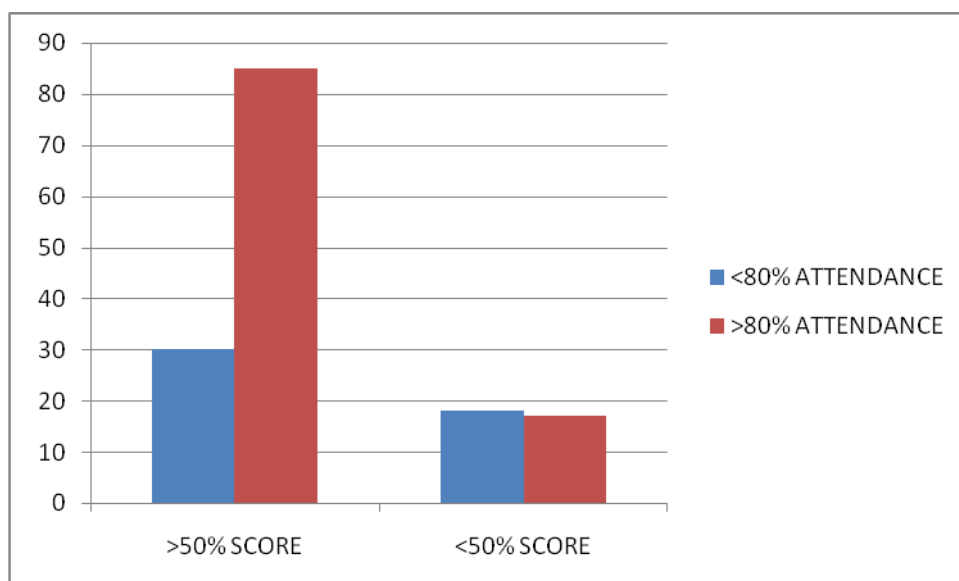
**Table/Fig 1: Comparison of performances between group I and Group II in 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> internal assessment examinations.**

Table 4, shows the comparison of performances between group I and group II in practical examinations. Similar trend is also noticed in practical examinations, where students with higher attendance (>80%) performed better than students with a lower attendance (<80%).

Characteristic	>50% score	<50% score	Chi-square value	p-value
Group I (<80%)	30(20%)	18(12%)	7.9	0.004
Group II (>80%)	85(55.3%)	17(11.3%)		

**Table 4: Comparison of performances (Practical) between group I and group II (n=150)**

Fig 2 depicts the bar graph of comparison of performances between group I and Group II in Practical examinations. Pass rate (55%) was higher among students with attendance more than 80% whereas only 20% of students cleared the exam with attendance less than 80%.



**Figure II: Comparison of performances between group I and Group II in Practical examinations.**

## Discussion:

Statistically significant association was observed ( $p < 0.05$ ) between theory attendance and students' academic scores in all the three internal assessments. It was more so significant in the second internal assessment. This shows that students' attendance plays a major role in securing better scores in formative assessments. When they remain absent in didactic lectures they cannot understand that particular topic and will not be able to follow the lectures in subsequent classes. This plays a detrimental effect in students' performances in theory examinations. Findings in this study are similar to the studies conducted by Hamdi A et al and Daud S et al, they also observed that students' performances and scores declines with absenteeism<sup>[12,13,14]</sup>

Strong positive association was also observed in practical attendance and performance which was statistically highly significant ( $p < 0.01$ ). This indicates that for acquisition of skill, it is necessary to attend practical classes. Teacher's instructions and guidance to learn the accurate methods to perform the practical correctly is very much essential especially in medical curriculum. This study findings are in accordance with the study carried out by Mohanan LK et al, in which significant correlation was observed between absenteeism and students' academic performances<sup>[15]</sup>

It was observed that the most common reason for absenteeism among the participants was absence due to illness and the next common cause was absence prior to examinations as the students need to prepare for their internal assessments.<sup>[11]</sup> Additionally lengthy classes, hostel and accomodation problems<sup>[16]</sup> and availability of classes on internet have been cited as causes of absenteeism in a previous study<sup>[17]</sup>

This study revealed that students skip early morning classes more in comparison to other periods. This might be due to various reasons like, their lack of motivation and interest in the subject, late night sleep and difficulty in waking up early in the morning to attend the classes.<sup>[18]</sup> Islam MZ et al also found similar causes of absenteeism in medical students<sup>[1,19]</sup>.

## Conclusion:

This study observed significant association between absenteeism and academic performances among first year medical students. Medical colleges should take some precautionary measures to decrease absenteeism, as this is detrimental for students' academic scores. Counselling sessions should be conducted for the students whose attendance is low and they should be appraised of the benefits of attending classes.<sup>[20]</sup>

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