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Correlation of Classroom Attendance with Exam Performance in I[st] MBBS Students In South Maharashtra

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Abstract: A number of studies have shown the impact of attending the classes during the session on examination results of students. Students with good lecture attendance show good results while those with poor lecture attendance are at risk for poor performance in the examinations. In this study we wanted to test this in students of I st MBBS in Physiology in our set up. All the students in I st MBBS in Physiology of Dr.V. M. Govt Medical College Solapur, during the session 2009-10 a 2010-11 were enrolled for this study. Performance of these students in Preliminary exams was analyzed. Students were grouped into two, Group-A with ≥60% attendance and Group-B with <60% attendance. The frequency of failure in the two groups was compared using the chi square test

Keywords: Student, Attendance, Examination, and Performance.

INTRODUCTION

The determinants of college students' academic performance is an important issue in higher education. Students' efforts, professors' teaching inputs, class size [10, 11], exam time taken [12] and socio-demographic characteristics such as race and gender [13, 14] Watts and Lynch [15], Anderson, *et al*. [16], Borg and Stranahan [17], are all possible factors that could produce an impact on students' exam performance. Among all variables, whether or not students attend lectures and classroom discussions affect their exam performance has received considerable attention.

Previous studies have demonstrated that significant learning occurs during the lectures. Students with good lecture attendance show higher examination scores, whereas those with poor lecture attendance are at risk for poor performance in the examinations.

Most of the universities consider the percentage of class attendance before allowing a candidate to appear in the examination. Our university, Maharashtra University of Health Sciences, Nashik considers a minimum attendance of 75% during an academic session as eligibility to sit in the university examination.

We conducted this trial to study the relationship of class attendance to performance in the examinations, in students of basic medical sciences in our set up.

MATERIALS AND METHODS

It was an institution-based observational study. We enrolled all the students of First Professional MBBS, Part-I and Part-II during the session 2009 and 2011, from our Medical College. Our Medical College is an undergraduate medical college, affiliated with Maharashtra University of Health Sciences, Nashik. The duration of study for MBBS is five and half years. The total number of First Professional MBBS students on the college roll was 100 in each Academic year 2009 and 2010. The course of study during First years includes three basic medical science subjects, i.e., Anatomy, Physiology and Biochemistry. One term ending and one Preliminary exam conducted during one-year study session. From both the tests internal assessment marks are calculated. These tests are conducted by the college itself and are therefore non university tests.

Attendance of these students during the lectures and Practical classes was counted from the attendance registers, for Physiology subjects included in their curriculum. Performance of these students was

assessed by academic achievement as represented by average of the results in the term ending and Preliminary exam. The outcome was taken as Passing score 50% or Failure <50% and > 60% as Ist Class. Students absent during term examination due to any reason were excluded from analysis. Out of total 200 students 3 were absent in exams, so were excluded from study. Total 197 participated in study. Minimum teaching hours are prescribed in for two semester Physiology 480 hours .Didactic lectures should not exceed 1/3 of the time schedule, 2/3 schedule should include practical's and group discussions/ seminars / tutorials.

The students of both the classes were grouped into two according to their percentage attendance, Group-A having 60% and Group-B <60% attendance.

Table-I: SAMPLE SIZE

SAMPLE SIZE n	Group-A 60% Attendance	Group-B <60 Attendance
197	103	94

The failure of students in the two groups of the two classes was compared separately as well as combined, using the χ^2 test.

RESULTS

The total number of First Professional MBBS students on the college roll was 100 in each Academic year 2009 and 2010. Total hours of attendance in these subjects during the term were, Physiology 480 hours. Attendance of these hours in the respective subject was taken as 100 %. The attendance of students was grouped into two categories, Group-A ≥60 % and Group-B <60 %. Results were also grouped into three categories, i.e., Passing score ≥50 %, Failure <50 % and > 60% as Ist Class.

There were 3 absentees in the examination excluded from the study. Out of the remaining 197 results, in respect to attendance 103fell in Group-A and 94 in Group-B

Table –II: Group Attendance > 60%

sample size n	< 50% Marks	>50% Marks	> 60% Marks
103	37	66	23

Table –III: Group-B Attendance <60%

sample size n	< 50% Marks	>50% Marks	> 60% Marks
94	43	51	11

Table-IV: Correlation of Attendance with passing

Group	N	No. Of pass std	Z test	No. Of I class	Ztest
A	103	66	1.402146	23	1.97
B	94	51	p>0.05	11	P=0.05

In Group-A, 37 students failed, while in Group-B, 43 failed. We applied Z test to compare the two variables i.e. Attendance and Failure. The calculated value of Z test was 1.402146 with *p*-value more than 0.05 which is not significant. But when both groups were compared for Ist Class grade Z test value was 1.97 and P value was equal to 0.05 which is statistically significant [4,5].

DISCUSSION

Our results supported the previous studies by Habib-ullah Khan *et al*. 2003[1] showing that Students with good attendance show good results while those with poor attendance are at risk for poor performance during examinations in basic medical sciences.. Similarly in the study by Hammen and Kelland [2] it has been shown that regular attendance in classes during a human physiology course was helpful in a statistical sense. In this study the general rule was a decrease in the examination result score with increase in the number of absences. Dhaliwal U in 2003 [3] observed learner absenteeism may contribute to low achievement. However, absenteeism may be symptomatic of low achievers. Low achievers or students with learning handicaps must be identified before admission or early in the medical course and encouraged to improve their performance and thereby enhance their self-esteem. A support group of family, peers, faculty and psychologists could help. Jennjou Chen *et al*. in 2008 [4] observed that class attendance has a positive and significant impact on college students' exam performance. On average, the effect of attending lectures corresponds to a 9.4 percent to 18.0 percent improvement in exam performance for those who choose to attend classes

Millis RM *et al*. in 2009[5] found that there was a significant association between a high rate of classroom attendance/participation and a high score on the comprehensive examination (Pearson's chi (2) =

8.599, P < 0.01). These findings suggest that classroom attendance/participation may be a significant determinant of performance of medical students on comprehensive examinations in first-year basic medical science courses. It is concluded that a substantial number of first-year medical students in this study could be at risk for poor performance because they may believe that there is an equivalency between internet- and classroom-based instructions in basic medical science courses

In 2007 Patrick Purcell [6] observed that the analysis of the lecture attendance and examination performance of civil engineering students at University College Dublin shows clearly that lecture attendance has a positive effect on the examination performance. Each 10% increase in student attendance at lectures improved examination performance by about 3%.Simillarly Aidan O'Dwyer[7] in 2011 observed that students who have chosen to attend lectures more regularly perform better in their examinations than students that have chosen to attend lectures less regularly. Vincenzo Andrietti Rosaria in 2008[8] found that although continuous evaluation of students learning is among the principles inspiring the European Space of Higher Education (Bologna Process), evidence about the effect of class attendance on academic performance is lacking for most European Union countries

David O. Allen [9] *in his* paper presented an alternative exploration into the link between absenteeism and exam performance by assessing the impact of *implementing* a module-specific attendance policy. Our results suggest the link between absenteeism and exam performance is strong, and that student-specific factors are important, including revision strategies and peer group effects.

Our study shows that class attendance during teaching sessions has a direct impact on better performance in examination rather than simply passing. Students with poor attendance can pass the examinations but their performance will be average compare to better attendance group.

This was a small scale study. Collection of additional data could have lent greater strength & depth to the conclusion of this study. Specially by analyzing other variables acting as confounding factors like availability of well-established library, computer assisted learning facilities, utilization of teaching aids, teaching skill of the lecturers, learning style, learning ability and previous academic record of individual students.

Limitation of Study

We didn't try to find reasons for poor attendance. That will be an important factor in determining exam performance.

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