IMPACT OF CLASS ATTENDANCE UPON EXAMINATION RESULTS OF STUDENTS IN BASIC MEDICAL SCIENCES

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Background: 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 basic medical sciences in our set up. **Methods:** All the students in Basic Medical Sciences of Gomal Medical College, D.I. Khan, Pakistan, during the session 1999-2000 were enrolled for this study. Performance of these students in one of their three annual term tests, which covered duration of studies for four months, from February 2000 to May 2000, was analyzed. Students were grouped into two, Group-A with ≥75% attendance and Group-B with <75% attendance. The frequency of failure in the two groups was compared using the chi square test. **Results:** Results of the term test showed that the percentage of failure in students of Group-B with less than 75%, attendance was significantly higher when compared to Group-A with equal or more than 75 % attendance. **Conclusion:** Our results supported the previous studies showing that attendance in the classes during teaching sessions had a direct impact on performance of students in the examinations. Students with good attendance show good results while those with poor attendance are at risk for poor performance during examinations in basic medical sciences.

Keywords: Student, Attendance, Examination, and Performance.

INTRODUCTION

Previous studies have demonstrated that significant learning occurs during the lectures[1]. Students with good lecture attendance show higher examination scores, whereas those with poor lecture attendance are at risk for poor performance in the examinations[2,3]. Most of the universities consider the percentage of class attendance before allowing a candidate to appear in the examination. Our university, University of Peshawar, Pakistan 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.

MATERIAL 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 1999-2000, from Gomal Medical College, D. I. Khan, Pakistan. Gomal Medical College is an undergraduate medical college, affiliated with University of Peshawar. The duration of study for MBBS is five years. The first year of study is called First Professional Part-I and the second year as First Professional Part-II. The course of study during these two years includes three basic medical science subjects,

i.e., Anatomy, Physiology and Biochemistry. Three term tests are conducted during each one-year study session. 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 all the three subjects included in their curriculum. The students of both the classes were grouped into two according to their percentage attendance, Group-A having ³75% and Group-B <75% attendance.

Performance of theses students was assessed by academic achievement as represented by the results in the term tests. The examination results of the second term test of Part-I and Part-II MBBS Classes were analysed separately. This term covered the four months duration of studies from February 2000 to May 2000. The outcome was taken as Passing score ³50% or Failure <50%. Students absent during term examination in any subject due to any reason were excluded from analysis in that subject only. 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 101. Out of these, 51 students were in Part-I, while 50 in Part-II MBBS. Total hours of attendance in these subjects during the term were, Part-I Anatomy 310, Physiology 119 and Biochemistry 84; while Part-II 291, 94 and 84 hours respectively. Attendance of these hours in the respective subject was taken as 100 % (Table-1). The attendance of students was grouped into two categories, Group-A ≥75 % and Group-B <75 %. Results in all the three subjects were also grouped into two categories, i.e., Passing score ≥50 % and Failure <50 %.

In Part-I, 51 students were supposed to have 153 results for three subjects. There were 8 absentees in the examination excluded from the study. Out of the remaining 145 results, in respect to attendance 76 fell in Group-A and 69 in Group-B. In Group-A, 10 students failed, while in Group-B, 20 failed.

In Part-II, 50 students were supposed to have 150 results for three subjects. There were 23 absentees in the examination excluded from the study. Out of the remaining 127 results, in respect to attendance 19 fell in Group-A and 108 in Group-B. In Group-A, nobody failed, while in Group-B, 35 students failed. Analysing the two classes together 101 students were supposed to have 303 results for three subjects. There were 31 absentees in the examination excluded from the study. Out of the remaining 272 results, in respect to attendance 95 fell in Group-A and 177 in Group-B. In Group-A 10 students failed, while in Group-B, 55 students failed. (Table-2).

We applied Chi square test to compare the two variables i.e. Attendance and Failure. The calculated value of χ^2 was 5.51 for Part-I MBBS class with *p*-value less than 0.02 which is significant and 8.51 with *p*-value less than 0.01 for Part-II MBBS class which is very significant. Comparing the results of the two groups in both the classes, i.e., Part-I and Part-II combined the χ^2 result was 14.35 with the *p*-value less than 0.001 which is highly significant.[4,5]

DISCUSSION

Our results supported the previous studies showing that class attendance during teaching sessions favourably affect the knowledge evaluation. In the study by Fiel[1] it has been demonstrated that significant learning occur during the lectures. 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. In the study by Riggs and Blanco[3] a negative correlation is shown between percent absences and examination scores, suggesting the vale of monitoring attendance and identifying students at risk for poor performance. In this study higher absence rates (more than 30%) was found to be predictive of poor performance while lower absence rates didn't predict performance. In the study by Dhaliwal[6] also higher attendance was associated with better marks in the formative assessment and it was concluded that learner absenteeism may contribute to low achievement.

Our study shows that class attendance during teaching sessions has a direct impact on the examination results. Students with poor attendance are at risk of failure in their examinations.

This was a small scale study. Collection of additional data could have lent greater strength & depth to the conclusion of this study. Specially by analysing other variables acting as confounding factors[7,8,9] like availability of well-established library, computer assisted learning facilities, utilisation of teaching aids, teaching skill of the lecturers,[10] learning style,[11] learning ability and previous academic record of individual students. In particular using more elaborate methods of assessment of students,[12] rather than the simple failure rate could have made it more exploratory.

Table-1: Total hours of study taken as 100% for the subjects of First Professional Part-I and Part-II

	Anatomy	Physiology	Biochemistry
Part-I MBBS	310	119	84
Part-II MBBS	219	94	84

Table-2: Attendance based groups and results of Part-I and Part-II class (Separate and combined).

	Part-I MBBS			Part-II MBBS			Part-I and Part-II Combined		
Attendance groups	**Number of results**	**Passing**	**Failure**	**Number of results**	**Passing**	**Failure**	**Number of results**	**Passing**	**Failure**
Group-A	76	66	10	19	19	0	95	85	10
Group-B	69	49	20	108	73	35	177	122	55

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