

# Effect of Class Attendance of Medical Students' Tests Performance

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## ABSTRACT

**Objectives:** To study the effect of class attendance of medical students on performance in tests.

**Study design:** Descriptive cross-sectional study.

**Place of Study:** Lahore Medical & Dental College (LMDC), Lahore.

**Duration of study:** two weeks in January, 2012

**Material and method:** Secondary Data was obtained from the end of session yearly record on attendance and test scores in the subject of Community Medicine

**Study Population:** All 72, 4<sup>th</sup> year MBBS students

**Variables:** Age, Gender, Class Attendance & Test Scores were taken. Data was entered and cleaned in SPSS 19 statistical package. Data was presented in the form of tables and graphs.

**Statistics used:** Descriptive statistics was used in the forms of numbers and percentages. Data was further analyzed using Pearson Correlation and chi square tests of significance ( $X^2$ ). The  $p$  value  $\leq 0.05$  was used as the cut off point for statistical significance.

**Results:** The present study was conducted with 4<sup>th</sup> year MBBS students, among whom 39(54%) were males and 33(46%) were females. All students were between the age group of 22-24 year. The class attendances of students were grouped into two categories i.e., <75% and  $\geq 75\%$ , also the test score were grouped into two categories i.e., < 50% (fail) and  $\geq 50\%$  (pass). Gender had a statistically significant bearing on class attendance but it had no effect on test scores.

**Conclusion:** There is a statistically significant association between attendance and test scores ( $p < 0.001$ ). There is a positive correlation between attendance and test scores ( $r = 0.05$ ). Male students had lower attendance ( $p = 0.04$ ) and test scores than the female students.

**Key words:** Class attendance, test scores, Community Medicine

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## INTRODUCTION

Regular class attendance is related to a student's commitment in pursuing education either at a school or college level.<sup>1</sup> Professional courses such as medicine require high attendance, for good understanding and grasp over the basic and clinical science subjects for better performance in their career life<sup>1</sup>. There are a number of reasons for absenteeism that it can directly affect the students' academic grades. Students with good lecture attendance show higher examination scores, whereas those with poor lecture attendance are at risk for poor performance in the tests and later in the Professional examinations<sup>2</sup>. Test score is found to be influenced by many factors such as class size, student and teacher absenteeism, cultural and social factors, lifestyle and learning styles of the students as well as factors related to teaching methods and performances<sup>3</sup>. In the international literature, many researchers have attempted to measure the impact of absenteeism

reduces student performance, in each study, the authors find a negative association between absenteeism and class performance and a positive correlation between test performance and attendance<sup>1-5</sup>. There is dearth of data from Pakistan which elaborates the impact of class attendance on assessment scores. The present study was conducted to study the effect of class attendance of medical students on performance in tests.

## MATERIALS AND METHODS

A descriptive cross-sectional study was conducted among 4<sup>th</sup> year MBBS students at Lahore Medical & Dental College (LMDC), Lahore. The study duration was two weeks in January 2012. Secondary Data was obtained from the end of session yearly record for the academic year 2010/2011. The data was examined on attendance and test scores of all 72, 4<sup>th</sup> year MBBS students, in the subject of Community Medicine. Data was entered and cleaned in SPSS 19 statistical package and presented in the form of tables and graphs. Descriptive statistics was used in the forms of numbers and percentages. Data was further analyzed using Pearson Correlation and chi

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square tests of significance ( $X^2$ ), with  $p$  value  $\leq 0.05$  was used as the cut off point for statistical significance.

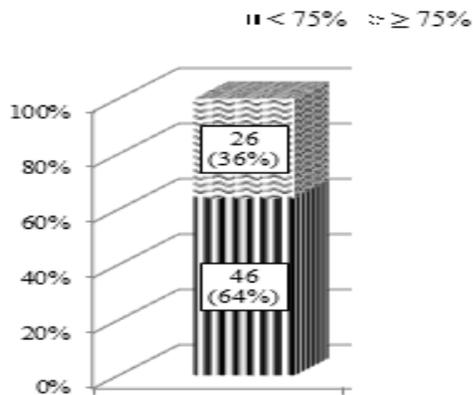
## RESULTS

The present study was conducted with 4<sup>th</sup> year MBBS students, among whom 39(54%) were males and 33(46%) were females. All students were between the age group of 22-24 year.

The class attendances of students were grouped into two categories i.e., <75% and  $\geq 75\%$  according to the requirement of the University. Test score were also grouped into two categories i.e., <50% (fail) and  $\geq 50\%$  (pass). Table 1 elaborates the test scores of study respondents according to their attendance. Figure 1 depicts that during the academic year 2010/2011, in Community Medicine, 26(36%) of students had an attendance of  $\geq 75\%$  and 46(64%) had an attendance of <75%. In the same class, 42(58%) of students passed their tests and 30(42) failed their class tests.

Figure 1: Attendance and Test Record of 72 fourth year MBBS students in Community Medicine

### Attendance



### Test Scores

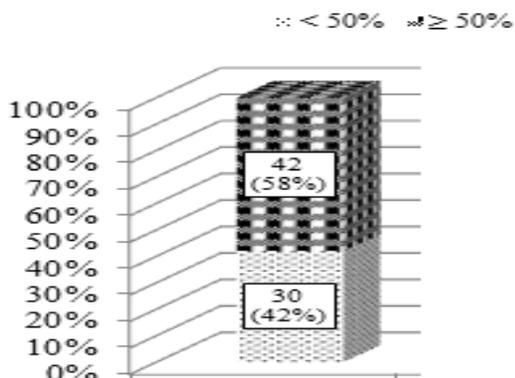


Table 1: Test Scores of 72 fourth year MBBS students according to Attendance in Community Medicine

Attendance	Test Scores		Tests of significance and $p$ value
	< 50%	$\geq 50\%$	
< 75% (46)	27(59%)	19(41%)	$r = 0.5$ $p$ value= $<0.001$ $X^2 = 15$ $p$ value= $<0.001$
$\geq 75\%$ (26)	3(11%)	23(89%)	

A statistically significant positive correlation was observed between attendance percentage and test score of our study respondents ( $r = 0.5$ ;  $p = <0.001$ ).

Among students with attendance <75%, failure rate in tests was 59% and pass rate was 41%. Among those who had attendance  $\geq 75\%$ , failure rate in tests was 11% and pass rate was 89% ( $p = <0.001$ ).

In our study, gender had a statistically significant bearing on class attendance but it had no effect on test scores. As observed in Table 2, in the subject of Community Medicine, among 46 students who had attendance <75%, 29(63%) were males and 17(37%) were females. Among 26 students with attendance  $\geq 75\%$ , 10(38%) were males and 16 (62%) were females ( $p=0.04$ ). Among 30 students who failed their tests, 19(63%) were male and 11(37%) were females. Out of 42 students who passed their tests, nearly an equal number were from either gender i.e., 20(48%) were males and 22(52%) were females.

Table 2: Effect of gender on attendance of 72 fourth year MBBS students in Community Medicine

	Male	Female	$X^2$ test and $p$ value
Attendance <75% (46)	29(63%)	17(37%)	$X^2 = 4$ $p$ value=0.04
$\geq 75\%$ (26)	10(38%)	16(62%)	
Test scores <50%(30)	19(63%)	11(37%)	$X^2 = 1.7$ $p$ value=0.19
$\geq 50\%$ (42)	20(48%)	22(52%)	

## DISCUSSION

The present study has a limitation of using low sample size, still, the findings suggest that test scores were significantly affected by class attendance as these two were positively correlated. These findings are in line with Hamdi's study results in which absenteeism had a significant effect on the level of achievement in medical pharmacology courses, and suggested the importance of regular attendance as an effective way of increasing test scores<sup>4</sup>. Khan et al. also reported from Gomal Medical College, D.I. Khan, that good attendance showed good results and those with poor attendance were at risk of poor performance during examinations in basic medical sciences<sup>2</sup>.

The present study highlights that while student absenteeism may contribute to low achievement, the reverse is also possibly true, where low achievers are more likely to absent themselves than higher achievers. Bin Saeed et al reported from Saudi Arabia that under-achievement assumes critical importance for medical care providers who are involved in decision-making in life-and-death situations<sup>1</sup>. Dhaliwal, reporting from India, emphasizes that attempts should be made to identify potential under-achievers and prompt remedial measures should be taken to prevent the cycle of absenteeism and under-achievement, which has a snowballing effect<sup>5</sup>. Cortright et al concluded from their study that the impact of class attendance on exam performance was more important in lecture based medical education<sup>6</sup>.

In the present study, it was also observed that boys were more likely than girls to miss classes and fail tests. Thus the influence of regular class attendance on test scores was more important for male students than female students. We could not come across any study done to observe the gender differences and its reason in class attendance in medical colleges. However, in a study conducted by Sander and Sanders, among undergraduate psychology students revealed that male students tend to give lower ratings to their studies than to the non-academic side. This was reverse for the female students<sup>7</sup>.

## CONCLUSION

The present study has reported a positive correlation between attendance and test scores. Our study also concludes that male students had lower attendance

and test scores than the female students. However additional variables such as diligence, communication skills, and study habits are likely also required to fully understand the impact of attendance on grades.

**Recommendations:** Future studies examining other important qualities, such as integrity, interpersonal skills, and willingness to commit to lifelong learning, merit further investigation.

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