

Original Article

Relationship Between Class Attendance, Sendup Exams and Professional Performance in Special Pathology for fourth year Medical Students

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Abstract

Objectives: To determine the importance of regularity and its relationship with academic achievements in send ups and professional exams in subject of pathology in fourth year MBBS students.

Methodology: A descriptive cross sectional study conducted on 4th Year MBBS students of session 2018-19 and 2019-20 in Pathology department of Nawaz Sharif Medical College, Gujrat. One hundred and eighty four students were included in this study. Data was entered in SPSS 21 and presented in the form numbers and percentages. Repeated measure ANOVA was used to compare the mean percentage score of send-up, assessment and professional exam score. Correlation analysis was used to determine the relationship between attendance, assessments and professional results of MBBS students. To compare the attendance, send-up, assessment and professional exam between both genders independent sample t test was used.

Results: There were 54(29.7%) male and 128(70.3%) females with ratio of 1: 2.4. There was significant difference in percentage score among send-up(58.1 ± 11.3), assessment(51.9 ± 11.4) and professional exam (69.8 ± 7.6). The highest marks were obtained in final professional exam followed by send-up and assessment marks. Results also showed that there exists a positive correlation between class attendance, send-up, assessment and professional examination. However, there was significant difference in send-up (female 59.3 ± 10.1 and males 55.3 ± 13.5) and assessment (female 54.1 ± 8.7 and male 46.5 ± 14.7) percentage between male and female students. The performance of male students was less than that of female students during the send-up and assessment but there was no significant difference in professional exam between the two gender groups.

Conclusion: Our study shows that class attendance during teaching sessions has a direct impact on the examination results.

Keywords: Send-up, assessment, Professional exam.

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Introduction

The goal of undergraduate medical education is to produce capable physicians who possess the necessary clinical skills for practice, appropriate medical knowledge, and an empathic approach toward patients. The various government and nongovernment medical

colleges set up lecture, tutorial, practical, and clinical classes for the undergraduate students' medical education. These sessions are structured for a set amount of time and follow the undergraduate medical curriculum.¹

Important learning happens in the classroom and during clinical placements, which is necessary for their

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formative evaluation to determine their current learning level. It reveals students should review their learning strategy and engage in more concentrated reading. Students must receive timely feedback in order to stay on target and ensure they remain stick to their objective.²

Lectures and tutorials are an integral aspect of contemporary academic pursuits. Attending lectures on a regular basis aids in a student's comprehension of the topics covered in the curriculum, which is necessary for achieving higher test scores. Attending class gives them a chance to improve their character and learn how to be disciplined, committed, and persistent.

Maintaining regular attendance in class is an example of distributed practice. It has been demonstrated that doing this increases information retention and raises the risk of overlearning.⁹ Higher exam scores and long-term recall of the content have been linked to both distributed practice and over learning. Mandatory attendance for lectures and practical sessions have been implemented by institutions. However, there is still a persistent issue with student absenteeism in medical education. Attendance at classes is a key component of professional growth and is evaluated as a sign of professionalism.¹¹ When it comes to putting attendance standards into practice, these are significant obstacles for medical institutions.^{3,4} Internal assessment calculations have always been based in large part on the academic performance of medical students on class exams.

For preclinical medical students, this internal evaluation contributes 10% toward written tests and 10% toward practical exams toward the overall marks earned in the annual exam.⁵ There is only one study that shows how class attendance and test scores together affect comprehensive examination results for MBBS students.⁴ Numerous studies have shown a positive correlation between test performance and attendance; however, the authors were unable to find any comprehensive national or international studies examining the relationship between MBBS students' performance on annual exams and their class test scores.^{5,11}

The importance of pathology subject is pertinent from the fact that it bridges the gap between basic sciences and clinical medicine. The primary objectives of teaching undergraduate pathology have traditionally been to give students a foundation for understanding disease descriptions and to equip them with knowledge of the structural and functional alterations that occur in

diseases, enabling them to recognize and interpret clinical signs and symptoms.⁶

Since the beginning of medical school, pathology has been taught through observation, logical interpretation of the available data, and the formulation of hypotheses.⁷ The community's health can only be ensured by physicians who are knowledgeable about the causes, signs, and course of disease in order to provide their patients with appropriate care. Therefore, one may argue that in order for medical students to become tomorrow's doctors, they need to have a fundamental understanding of pathology.⁸

Several studies have demonstrated that the most effective method that students retain and assimilate content in the classroom is through class test and exams. The lack of pathology examinations may result in qualified physicians who are competent in managing diseases but who lack a basic understanding of the concepts behind them.^{8,9}

Methodology

It was a descriptive cross-sectional study conducted on 4th Year MBBS students of session 2018-19 and 2019-20 in Pathology department of Nawaz Sharif Medical College Gujrat. There were a total of 184 students included in this study. Data was entered in SPSS 21 statistical package and presented in the form numbers and percentages. Repeated measure ANOVA was used to compare the mean percentage score of send-up, assessment and professional exam score. Correlation analysis was used to determine the relationship between attendance, assessments and professional results of MBBS students. Independent sample t test was used to compare the attendance, send-up, assessment and professional exam between both genders

Results

This study was conducted on 4th Year MBBS students of session 2018-19 and 2019-20. There were 54(29.7%) male and 128(70.3%) females with ratio of 1: 2.4. Table I shows the percentage of attendance, send-up score, assessment score and professional exam scores.

Repeated measure ANOVA was used to compare the mean percentage score of send-up, assessment and professional exam score of 4th students. Results indicated that there is significant difference in percentage score among send-up, assessment and professional exam. The highest marks were obtained in

final professional exam followed by send-up and assessment marks. (Table II)

Table I: Showing descriptive statistics of attendance, send-up score, assessment score and professional exam scores.

Variable	Mean \pm SD	Minimum	Maximum
Attendance percentage	81.9 \pm 9.3	20.1	96.1
Send-up percentage	58.1 \pm 11.3	14.80	83.70
Assessment percentage	51.9 \pm 11.4	5.50	76.40
Professional exam percentage	69.8 \pm 7.6	29.00	88.00

Table II: comparison of send-up score, assessment score and professional exam scores

	Send-up	Assessment	Professional exam	p-value
Percentage score Mean \pm SD	58.1 \pm 11.3	51.9 \pm 11.4	69.8 \pm 7.6	< 0.001

Correlation analysis was used to determine the relationship between attendance, assessments and professional results of MBBS students. Results revealed that there is a positive correlation between class attendance, send-up, assessment and professional examination. (Table III)

Table III: correlation between attendance, send-up score, assessment score and professional exam scores

	Send-up	Assessment	Professional exam
Attendance	0.532*	0.640*	0.553*
Send-up	-	0.585*	0.685*
Assessment	-	-	0.696*

*Correlation is significant at the 0.01 level.

Independent sample t test was used to compare the attendance, send-up, assessment and professional exam between both genders. Results indicated that there is significant difference in send-up and assessment percentage between male and female students. The performance of male students was less than that of female students during the send-up and assessment but there was no significant difference in professional exam between the two gender groups. Attendance of female students was also significantly higher as compared to male students. (Table IV)

Table IV: Comparison of attendance, send-up score, assessment score and professional exam scores between both genders.

Variable	Female Mean \pm SD	Male Mean \pm SD	P-value
Attendance percentage	83.9 \pm 6.0	77.3 \pm 13.3	< 0.001
Send-up percentage	59.3 \pm 10.1	55.3 \pm 13.5	0.031
Assessment percentage	54.1 \pm 8.7	46.5 \pm 14.7	< 0.001
Professional exam percentage	70.4 \pm 6.5	68.3 \pm 9.7	0.094

Discussion

According to our findings, there is a significant positive correlation between the pathology send-up performance of fourth-year medical students and their performance on the annual professional exam. Moreover, there exist a positive correlation between average class test performance and annual exam performance, which is consistent with prior research done on MBBS preclinical students.^{5, 10, 11}

Students' dedication to their studies is demonstrated by their performance on class tests, which, when combined with a good result, boosts their self-confidence and helps

them do better in yearly exams.^{13, 14} The fact that the university's internal assessment of pathology carries 30 marks illustrates the significance of the class tests. As a result, class exams require regularity, and passing them counts toward more than just your grade.

Thus, class tests require regularity, and performance which not only serves as an evaluation of ability but also boosts self-esteem and propels students toward greater objectives.^{5,10} Students who do well on in-class assessments eventually do well on the annual exams as well.

Class attendance had a substantial impact on test scores since, as our study revealed, there was a positive correlation between the two. These results are consistent with research on community medicine conducted in Lahore.³ Our study corresponds to Hamdi's research which indicates that consistent attendance is crucial for improving exam results and that absence significantly affects students' performance in medical pharmacology courses.¹³ Khan et al. reported that students who attended class regularly performed well on exams covering the fundamental medical sciences.¹⁴

Under achievement in exams have significant importance for medical students who are involved in making life-and-death decisions, according to a study by

Bin Saeed et al.¹⁵ Similarly Cortright et al.'s study suggested that in lecture-based medical education, the influence of class attendance on exam achievement was more significant.¹⁶ Comparing class attendance (%) and the NBME physiology scaled score revealed similar results, indicating a substantial correlation between class attendance and college grades. This study was conducted by Panta et al.²¹

Exam performance is positively and significantly impacted by attending lectures. The benefits of regular attendance for medical students in class include improved exam outcomes, elevated self-esteem, greater scores on standardized tests, and increased educational attainment, as demonstrated by a Dhaka study.⁴ The findings of this study correlate with those of our results.

Similar relationship has been observed between attendance in class and academic achievement in the theory and practical exams of the MBBS students studying pharmacology.² Students who attended theory and practical lessons regularly had a high pass percentage on the theory and practical assessment. These findings are consistent with our research, which demonstrates a strong relationship between academic achievement and attendance.

Roy et al study on medical students showed that students' better performance in Microbiology exam is associated with high attendance percentage, female gender, residence (local aid) and successful performance in 1st year.¹⁹ Jaykaran et al in his study reported a moderate correlation between attendance and marks obtained in pharmacology in medical undergraduate students.¹⁷

According to Fadelelmoula T. et al, attendance has a favorable impact on students' academic achievement, with lectures having a greater impact than other forms of instruction.¹² Our findings also demonstrated that female students are more consistent in their regular attendance, and they outperformed male students in sendups, annual examinations, and in-class assessments. However, this difference is not significant in sendup and annual examination. Our findings are in line with a study by Daud et al. that found a substantial correlation between test scores and attendance, with male students performing worse on tests and attending less classes than female students.³

Another study showed that the female student performs better than their counterpart during both sendups and annual examination but this difference is not significant when compared with our study.¹⁰

However, a study by yaqoob et al showed that the male students showed an increasing trend to improve in the annual exam when compared with the female.¹⁰ The reason for this difference may be due to students catching up during summer vacations and preparatory leaves before professional exams.

Further investigation is necessary, but it's possible that boys' typically casual attitude toward class exams during the year and their relative seriousness during finals are the cause of this. Male students tend to rate their studies lower than the non-academic side, according to a Sander and Sanders survey of undergraduate psychology students. For the female students, this was the opposite.¹⁸ A study carried out in India showed that the proportion of male to female students was 168 (35.36%): 307 (64.64%) being a higher percentage of female students who passed the admission test and were admitted to the medical college than male students. The majority of students who regularly attended class and had an attendance rate of over 75% performed well on their exams.⁴ that is in line with our research.

In literature a consistent finding is that woman likely to perform better than the men counterparts in their medical training. This trend also continues even in clinical assessments.

In a study conducted in Jordan by Sawair et al. on 413 dental students, it was discovered that the GPAs of the female students were much higher than those of the male students. It can be explained by the ways in which men and women perform differently in terms of academic, motivational, and demographic aspects.²⁰ Other elements, like the quality of the lectures and the students' study habits, might also have a comparable effect on how well the students perform academically on the board exams

Conclusion

Our study shows that class attendance during teaching sessions has a direct impact on the examination results. Only the academic performance and attendance have been examined here. Academic achievement is also impacted by a number of complicating factors. Class attendance is a behavioral representation of student characteristics, but to fully understand how attendance affects academic performance, additional variables must be analyzed, including class size, study habits, teacher absenteeism, communication skills, and cultural and social factors.

References

1. Islam MZ, Foyisal AA, Rahman NMW, Rayhan N, Islam ME, Khandakar M, Sultana R, Salim A. Relation of Academic Performance and Class Attendance of Undergraduate Medical Students and Reasons For Absenteeism; EMCJ; July 2017;2(2):10-16
2. Mohanan LK, Harichandran DT, Vijayan SM. Association of class attendance and academic performance of MBBS students in pharmacology-a retrospective cohort study. *J. Physiol. Pharm. Pharmacol.* 2017;7(10):1056.
3. Daud S, Javaid F. Effect of class attendance of medical students' tests performance. *Pak J Med Health Sci.* 2012;6(2):295-7.
4. Ahmad M, Rahman FN, Shawon MM, Ali M. Effect of class attendance on medical student's academic performance-an observational study. *Faridpur Medical College Journal.* 2017 Oct 9;12(2):58-63.
5. Yaqoob N, Bhatti SA. Class test performance can be a predictor of scores in annual exam for a preclinical medical student. *J. Univ. Med. Dent. Coll.* 2014 Dec 3;5(2):57-60.
6. Domizio P. 12 The Changing Role of Pathology in the Undergraduate Curriculum. *Understanding Disease: A centenary celebration of the Pathological Society.* 2006:137-52.
7. Tweel JG, Taylor CR. A brief history of pathology. *Virchows Archiv.* 2010;1(457):3-10. doi:10.1007/s00428-010-0934-4
8. Mukundu Nagesh N, Chiva Giurca B, Lishman S. Innovating undergraduate pathology education through public engagement. *Virchows Archiv.* 2018 May;472(5):853-63.
9. Larsen DP, Butler AC, Roediger III HL. Test-enhanced learning in medical education. *Medical education.* 2008 Oct;42(10):959-66. doi:10.1111/j.1365-2923.2008.03124.x
10. Yaqoob N, Bhatti SA, Javed MS. Send-up exam performance: a predictor of scores in annual exam for preclinical medical students. *The Professional Medical Journal.* 2015 Feb 10;22(02):159-62.
11. Ward ST, Downey MC, Thompson AL, Collins MA. Predictors of success in dental hygiene education: A follow-up study. *American Dental Hygienists' Association.* 2010 Dec 1;84(1):24-8.
12. Fadelelmoula T. The impact of class attendance on student performance. *Int. J. Med. Med. Sci.* 2018 Jun;6(2):47-9.
13. Hamdi A. Effects of lecture absenteeism on pharmacology course performance in medical students. *J Int Assoc Med Sci Educ.* 2006;16(1):27-30.
14. Khan HU, Khattak AM, Mahsud IU, Munir A, Ali S, Khan MH, Saleem M, Shah SH. Impact of class attendance upon examination results of students in basic medical sciences. *J. Ayub Med. Coll.* 2003;15(2): 56-8
15. BinSaeed AA, al-Otaibi MS, Al-Ziyadi HG, Babsail AA, Shaik SA. Association between student absenteeism at a medical college and their academic grades. *J Int Assoc Med Sci Educ.* 2009;19(4):155-9.
16. Cortright RN, Lujan HL, Cox JH, DiCarlo SE. Does sex (female versus male) influence the impact of class attendance on examination performance?. *Advances in physiology education.* 2011 Dec;35(4):416-20.
17. Jaykaran, Yadav P, Chavda N, Kantharia ND. Factors associated with performance of second year student in pharmacology examinations. *J Pharmacol Pharmacother.* 2011 Jun;2(2):123-5.
18. Sander P, Sanders L. Rogue males: Sex differences in psychology students. *Electron. J. Res. Educ. Psychol.* 2006;4(1):85-108.
19. Roy SS, Chadawada J. Predictors of academic performance of medical undergraduate students of microbiology class in Kolkata. *International Journal of Medicine and Public Health.* 2014;4(4):392-35.
20. Sawair FA, Baqain ZH, Al-Omari IK, Wahab FK, Rajab LD. Effect of gender on performance of undergraduate dental students at the University of Jordan, Amman. *Journal of dental education.* 2009 Nov;73(11):1313-9.