



SEND-UP EXAM PERFORMANCE; A PREDICTOR OF SCORES IN ANNUAL EXAM FOR PRECLINICAL MEDICAL STUDENTS

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ABSTRACT: One of the criteria for admission in Annual Professional Exam for medical students in Pakistan is to have 75% attendance during the session and the other is to pass Send up exam with 50% marks. **Objectives:** To assess the usefulness of send-up exams in predicting the annual marks by comparing their results with annual University examination results for preclinical medical students. **Study Design:** A cross sectional analytical study. **Methodology:** A total of 173 preclinical students of 1st and 2nd year MBBS passing the First Professional Exam in first attempt were included in the study. Send up result of each student during the year was entered as percentage and compared with percentage total marks of same students in their 1st professional exam conducted by the University. Data maintained by Physiology Department was entered and analysed by SPSS 21. Descriptive statistics in the form of numbers and percentages were used and further analyzed using Pearson Correlation and Paired T Test of Significance. The p value of < 0.05 was considered significant. **Results:** A total of 173 students (81 from 1st Year and 92 from 2nd Year) who had passed the annual exam in first attempt were included in the study. Out of these, 132(76.3%) were females and 41(23.7%) males. All students were within the age group of 18-24 years, mean age being 21.06 years. Mean send-up score in the subject of Physiology was 57.37 (Range=33-78). Percentage total marks in all subjects (Anatomy, Physiology, Biochemistry) in annual exam had a mean of 69.46 (Range=55-84). Send-up result in percentage was directly assessed against the percentage marks obtained in annual exam for each student. The send-up marks were significantly related to the marks in the final exam ($p=0.01$). The strength of association was same as that for average test marks with annual marks. Girls performed better than boys during the send up (Mean 58.35 Vs 54.21) as well as in the annual exam (Mean 70.12 Vs 67.33). There was also a difference amongst different classes with 2nd year performing better than first year in both send-up (Mean 58.60 vs 55.98) and annual exams (Median 70.83 vs 67.91). **Conclusions:** Send-up results may be good predictors of the academic performance in professional examination in preclinical years in a medical college. Female students perform better than their counterparts during both send-up and annual exams.

Key words: Send-up, Pre-clinical students, MBBS, Physiology, Average test scores, Academic performance

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INTRODUCTION

One of the criteria for admission in Annual Professional Exam for medical students in Pakistan is to have 75% attendance during the session and the other is to pass Send up exam with 50% marks. Whereas different studies worldwide have linked class attendance¹⁻⁸ and class test performance⁹⁻¹² with academic performance of students in annual exams, the role of send up specifically has never been studied in isolation for prediction of annual performance of medical students in Pakistan or abroad.

Send up differs from the class tests in time duration, breadth of topics and stress level for students. Also, a student may experience an adversity on the day of send up though having performed well throughout the academic year. Therefore we wanted to know if the class test average is equivalent to the send up performance for pre-clinical medical students in predicting annual results.

METHODOLOGY

This was an analytical cross-sectional study

conducted on Pre-clinical class of 1st and 2nd year MBBS during the session 2011-12. All (173) the students passing the 1st professional exam in first attempt (81 from 1st Year and 92 from 2nd Year) were included in the study. Out of total, 132(76.3%) were females and 41(23.7%) males. The students debarred to appear in the annual examination or failing in first attempt were excluded.

There were 5 tests for each class during the year with paper pattern and marks distribution similar to that in annual exam including MCQs, SEQs and Viva Voce. These also included one mock practical exam for each class near the end of session but before send up. The send up was of three hours but without any viva voce. The time given for each question was slightly less than what is given in annual (12min for each SEQ of 15min and 50sec for each MCQ of 60sec). This was to balance for the extra stress during the professional exam.

The result of each test was displayed within 7 working days of test and students were given feedback on their performance. The send ups were conducted during preparatory leaves with minimum of two weeks between the end of course and send up exam.

The results were compiled in Physiology Department Excel database where annual result (retrieved from University of Health Sciences' website) was also entered. This data was then entered and analyzed through Statistical Package for Social sciences (SPSS) version 21 (IBM) using Pearson Correlation and Paired T-Test for correlation analysis. A p-value of less than 0.05 was considered significant.

RESULTS

This study was conducted on a total of 173 students (81 from 1st Year and 92 from 2nd Year) who had passed the annual exam in first attempt. Out of these, 132(76.3%) were females and 41(23.7%) males. All students were within the age group of 18-24 years, mean age being 21.06 years. Mean send-up score in the subject of Physiology was 57.37 (Range=33-78) while mean

of average test score was 63.97(Range=32-81). Percentage total marks in all subjects (Anatomy, Physiology, Biochemistry) in annual exam had a mean of 69.46 (Range=55-84). Send-up result in percentage was directly assessed against the percentage marks obtained in annual exam for each student. The send-up marks were significantly related to the marks in the final exam ($p=0.01$). The strength of association was same as that for average test marks with annual marks (0.726 vs. 0.725). Girls performed better than boys during the send up (Mean 58.35 vs. 54.21) as well as in the annual exam (Mean 70.12 vs. 67.33). There was also a difference amongst different classes with 2nd year performing better than 1st year in both send-up (Mean 58.35 vs. 54.21) and annual exams (Median 70.12 vs. 67.33).

		SendUp Marks	Annual Exam Marks
SendUp Marks	Pearson Correlation	1	.726**
	Sig. (2-tailed)		.000
Annual Exam Marks	Pearson Correlation	.726**	1
	Sig. (2-tailed)	.000	

Table I: Pearson Correlation between Sendup and Annual Exam

** . Correlation is significant at the 0.01 level (2-tailed).

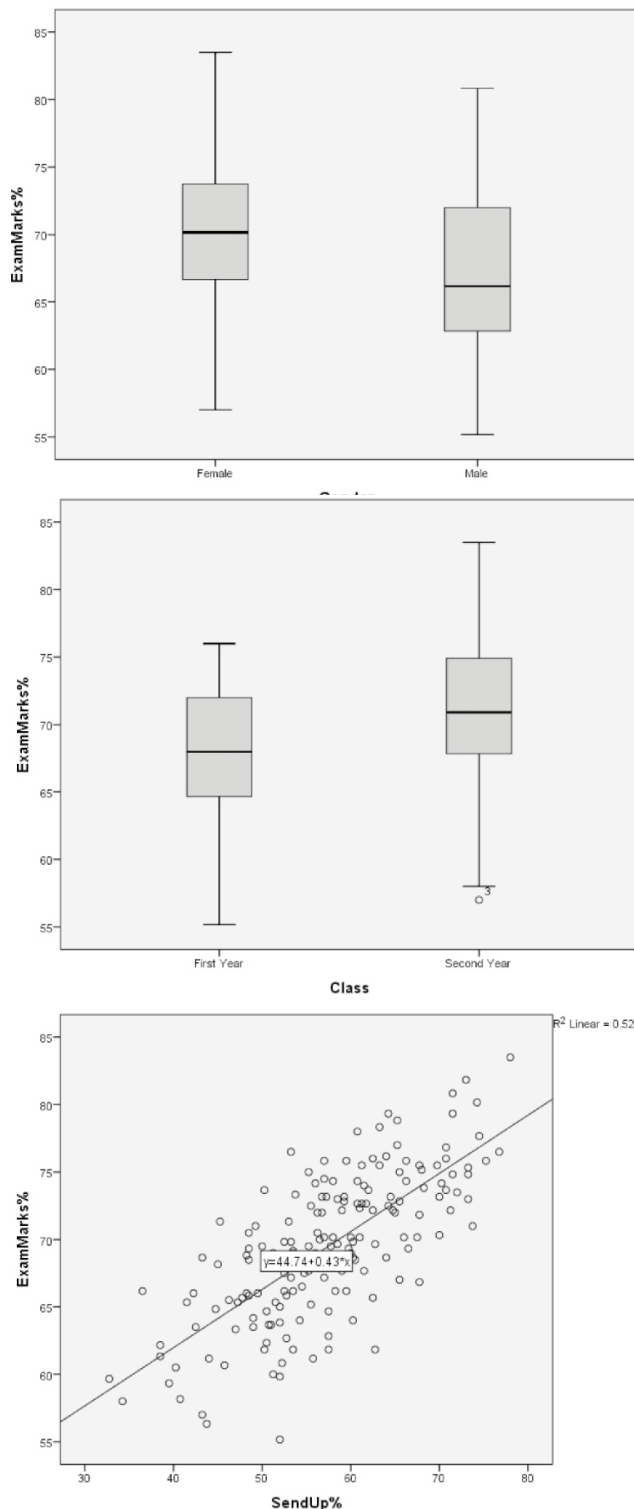
	Correlation	Sig.
SendUp & Annual Exam Marks	.726	.000

Table II: Paired T-test for SendUp & Annual Exam Results

		Annual Exam Marks	Average Test Marks (without SendUp)
Annual Exam Marks	Pearson Correlation	1	.725**
	Sig. (2-tailed)		.000
Average Test Marks (without SendUp)	Pearson Correlation	.725**	1
	Sig. (2-tailed)	.000	

Table III: Pearson Correlation for Annual Marks & Av Test Marks

** . Correlation is significant at the 0.01 level (2-tailed).



DISCUSSION

Our results show that the performance of pre-clinical medical students in send ups is positively and strongly related to their performance in

the annual professional exam. This correlation was also similar to that between annual exam performance and average test performance (other than send up). This would be in keeping with the other studies which showed positive correlation between class test performance and annual exam results⁹⁻¹².

Class tests correspond to a student's commitment to studies¹³ and a performance in these tests especially send up would further encourage their confidence to do better in annual exams¹⁴.

Our results also showed that female students performed better than male students not only in tests and send ups but also in annual exams. This is slightly different than another study¹² performed in our city which showed the male students catching up in the annual exams. The reason of this difference is a larger sample size in our study and inclusion of both 1st and 2nd year students in the data rather than only 2nd year.

The study also shows that the association of class tests is similar to send up exam with annual results. This would mean that if a student cannot (for some reason) appear in the send up, the average test performance may be used instead to determine eligibility for annual exam for medical students.

In our study there was a difference of performance amongst different classes with 2nd year performing better than the 1st year. The reason for this could be a combination of better acclimatisation, less stress and better acquaintance to the exam system for 2nd year students.

The study of course has the limitation that the results of Physiology send up were available to compare with annual total marks. It will be worth assessing if the results of Anatomy and Biochemistry send ups also correlate to annual results in a similar fashion.

CONCLUSION

There is a strong correlation of send-up results in Physiology with annual results. If conducted as

per annual exam pattern, the send up results are equivalent to average test results in predicting the annual exam marks of pre clinical medical students. 2nd year students score better than 1st year students and girls score better than boys during tests, send up and annual exams.

RECOMMENDATIONS

Send up exams should continue to be the criteria for eligibility determination for MBBS annual exams. The students who cannot appear in send up exam for some genuine reason may have their admission eligibility assessed according to their average test performance.


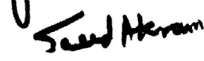
Further studies are needed to assess the relation between other subjects and annual results and Physiology tests and Annual Marks in Physiology for medical students.

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REFERENCES

1. Millis RM, Dyson S, Cannon D. **Association of classroom participation and examination performance in a first-year medical school course.** Adv Physiol Educ. 2009 Sep;33(3):139-43.
2. Bin Saeed AA, al-Otaibi MS, al-Ziyadi HG, Babsail AA, Shaik SA. **Association Between Student Absenteeism at a Medical College and their Academic Grades.** JIAMSE. 2009; 19(4): 155-9.
3. 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.
4. Kasim K. **Mid-year test score achievement and absenteeism days.** Al-Azhar Medical Journal. 2006; 35(4): 559-64.
5. Hamdi A. **Effects of Lecture Absenteeism on Pharmacology course performance in Medical Students.** J Int Assoc Med Sci Educators. 2006; 16(1):27-30.
6. Dhaliwal, U. **Absenteeism and under-achievement in final year medical students.** Natl Med J India. 2003; 16(1):34-7.
7. Daud S, Javaid F. **Effect of Class Attendance of Medical Students' Tests Performance.** Pak J Med Health Sci. 2012; 6(2): 295-7.
8. Hammen CS, Kelland JL. **Attendance and grades in a human physiology course.** Am J Physiol. 1994 Dec;267(6 Pt 3):S105-8.
9. Alzahrani MJ, Thomson EM, Bauman DB. **Predictors of student success in an entry-level baccalaureate dental hygiene program.** J Dent Hyg. 2007 Spring;81(2):51. Epub 2007 Apr 1.
10. Downey MC, Collins MA, Browning WD. **Predictors of success in dental hygiene education: a six-year review.** J Dent Educ. 2002 Nov;66(11):1269-73.
11. Ward ST, Downey MC, Thompson AL, Collins MA. **Predictors of success in dental hygiene education: a follow-up study.** J Dent Hyg. 2010 Winter;84(1):24-8. Epub 2010 Jan 1.
12. Yaqoob N, Bhatti S A, Javed M S. **Class test performance can be a predictor of scores in Annual Exam for a Preclinical Medical Student.** JUMDC. 2014 July-Dec; 5(2): 57-60
13. Bandura A. **Selfefficacy: Toward a unifying theory of behavioural change.** Psychological Rev. 1977; 84:194-215.
14. Sugiyama K, Matsui H, Satoh C, Yoshimi Y, Takeuchi M. **Effects of self-efficacy and outcome expectations on observational learning of altruistic behaviour.** Shinrigaku Kenkyu. 1992; 63:295-302.

AUTHORSHIP DECLARATION

Sr. N.	Author-s Full Name	Contribution to the paper	Author=s Signature
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2	Dr Saeed Akram Bhatti	Literature Review, Proof Reading, Data	
3	Dr Muhammad Shahid Javed	Literature Review, Proof Reading	