

Academic performance of day scholars versus boarders in pharmacology examinations of a medical school in Pakistan

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Abstract

Objective: To compare the academic performance of day scholar and boarder students in Pharmacology examinations.

Methods: This comparative study was conducted at Rehman Medical College, Peshawar, Pakistan, from June to September, 2015. It comprised third-year medical students of the sessions 2013-14 and 2014-15. The record of the results of examinations, which had already been conducted, were assessed. All the exams had two components, i.e. multiple-choice questions and short-essay questions. Students were categorised into 4 groups according to their academic performance: those who got <50% marks (Group 1); 51-69% marks (Group 2); 70-80% marks (Group 3); and >80% marks (Group 4). SPSS 20 was used for data analysis.

Results: Of the 200 students, 159(79.5%) were day scholars and 41(20.5%) were boarders. In multiple-choice questions, 29(70.7%) boarder students were in Group 2, while none of them was in Group 4. In short-essay questions, 11(26.8%) of them were in Group 1 and 17(41.5%) in Group 2.

Results of day scholars' multiple-choice questions exams showed 93(58.5%) were in Group 2 and 2(1.3%) in Group 4. In short-essay questions, 63(39.6%) were in Group 2 ($p > 0.05$ each).

Conclusion: No significant difference was found between the academic performance of boarders and day scholars.

Keywords: Academic performance, Pharmacology, Multiple-choice questions, Short essay questions, Day scholars, Boarders. (JPMA 66: 1094; 2016)

Introduction

The boarding system schools were started by Roman Catholics and Anglicans for their missionary purposes in the 20th century.^{1,2} The logic was to help students utilise teachers when needed. Boarders enjoy their living, studies and sports properly.³ Moreover, they develop the habit of adjusting in new environment and to live independently. They learn to believe in themselves and feel confident. They grow in maturity as they take appropriate decisions to recognise their aptitude and talents.⁴

However, certain researches have shown that some children sent to boarding schools pass through a grief of the homesickness and for some students it might prove to be scary to meet a whole bunch of new people.^{5,6} Moffat stated that an important role is played by boarding schools in the development of child's mind and personality. An environment of healthy competition with other classmates and peers is provided at boarding schools which motivates children to improve their performance.⁷

The day scholars, on the other hand, live with their parents and don't come across with issues such as bad

food, hostel ragging and homesickness, but they surely do envy the freedom and independence of their hostel buddies.⁶ It is believed that due to unsustainable home environment, the day scholars cannot study properly. In harsh weather conditions, the long distance to the school is another problem. Bad company is a common problem both for boarders and day scholars.¹

Some researchers believe that day scholars perform much better as residential care and encouragement plays a vital role in improving academic performance.⁸ According to some other researchers, boarding schools was thought to be positively correlated with academic performance as it keeps them away from family and other unnecessary gatherings which are responsible for a significant wastage of time; thus they can easily study at the hostel without any interference.^{5,9}

The present study was conducted to somewhat resolve the conflict of better academic performance among day scholars and boarders. Outcome of the study may form the basis for paying much attention and doing more hard work with the weaker group in order to improve their academic performance. The study may be helpful for college's policymakers to design and implement better policies.

Subjects and Methods

This comparative study was carried out at Rehman

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Medical College, Peshawar, Pakistan, from June to September 2015, and comprised third-year medical students of the sessions 2013-14 and 2014-15 selected by using universal sampling. Ethical approval was obtained from the institutional committee and confidentiality of all participants was ensured. Most of the students were unmarried, belonged to different regions of Khyber Pakhtunkhwa (KP) and almost all were Muslims. Their age was between 18 and 20 years. The course contents included general pharmacology, autonomic nervous system, cardiovascular system, central nervous system, gastrointestinal tract, blood, autacoids, respiratory system, endocrine system and chemotherapeutic agents. All the 24 pharmacology examinations conducted for the sessions under review were evaluated and compared on the basis of previous records of fortnightly, end-of-module, midterm and end-of-session examinations. The written theory paper consisted of two components: part-1 comprised single best answer (SBA) type multiple-choice questions (MCQs) and part-2 comprised short-essay questions (SEQs). Structured key was provided to the examiners in order to eliminate the bias when the papers were evaluated. The list of the boarder students was provided by the Student Affairs section and was also confirmed from the individual students as well.

The students were categorised into 4 groups: <50% marks in exams Group 1; between 51-69% marks Group 2; between 70-80% marks Group 3; and >80% marks Group 4.

SPSS 20 was used for data analysis. Data for MCQs and SEQs marks was described by using mean, standard deviation (SD), median, interquartile range (IQR), frequency and percentages. Chi-square analysis was used to see any significant difference among marks categories. $P \leq 0.05$ was considered significant.

Results

Of the 200 students, 159 (79.5%) were day scholars and 41 (20.5%) were boarders. As for MCQs marks, 6 (14.6%) boarder students were in Group 1, 29 (70.7%) in Group 2, 6 (14.6%) in Group 3 and none in Group 4. In SEQs, 11 (26.8%) boarders were in Group 1, 17 (41.5%) in Group 2, 9 (22%) in Group 3 and 4 (9.8%) in Group 4 ($p=0.798$).

Results of day scholars' MCQs exams showed 36 (22.6%) were in Group 1, 93 (58.5%) in Group 2, 28 (17.6%) in Group 3 and 2 (1.3%) in Group 4. In SEQs, 46 (28.9%) were in Group 1, 63 (39.6%) in Group 2, 36 (22.6%) in Group 3 and

Table-1: Comparison of the academic performance of boarder and day scholar students in MCQs & SEQs examination.

		Residential status		P-value
		Boarder	Day scholar	
%MCQs	Mean	57.6	57.5	0.798
	SD	11.6	13.7	
	Median	58.0	60.0	
	Q1	50.0	50.0	
	Q3	65.0	68.0	
%SEQs	Mean	55.6	56.2	0.984
	SD	21.4	19.5	
	Median	58.0	57.0	
	Q1	43.0	40.0	
	Q3	72.0	75.0	
Overall total	Mean	56.3	56.7	0.887
	SD	16.3	15.6	
	Median	56.4	57.4	
	Q1	47.1	45.9	
	Q3	70.9	71.8	

MCQs: Multiple-choice questions

SEQs: Short-essay questions

SD: Standard deviation

Q: Quartile

Table-2: Distribution of Boarder and Day scholar students by their performance in MCQs & SEQs exam by their residential status.

		Residential status				Total	P-value
		Boarder		Day scholar			
		N	%	n	%	N	%
MCQs	< 50	6	14.6	36	22.6	42	21.0
	50 - 69	29	70.7	93	58.5	122	61.0
	70 - 80	6	14.6	28	17.6	34	17.0
	> 80	0	0.0	2	1.3	2	1.0
	Total	41	100.0	159	100.0	200	100.0
SEQs	< 50	11	26.8	46	28.9	57	28.5
	50 - 69	17	41.5	63	39.6	80	40.0
	70 - 80	9	22.0	36	22.6	45	22.5
	> 80	4	9.8	14	8.8	18	9.0
	Total	41	100.0	159	100.0	200	100.0

MCQs: Multiple-choice questions

SEQs: Short-essay questions

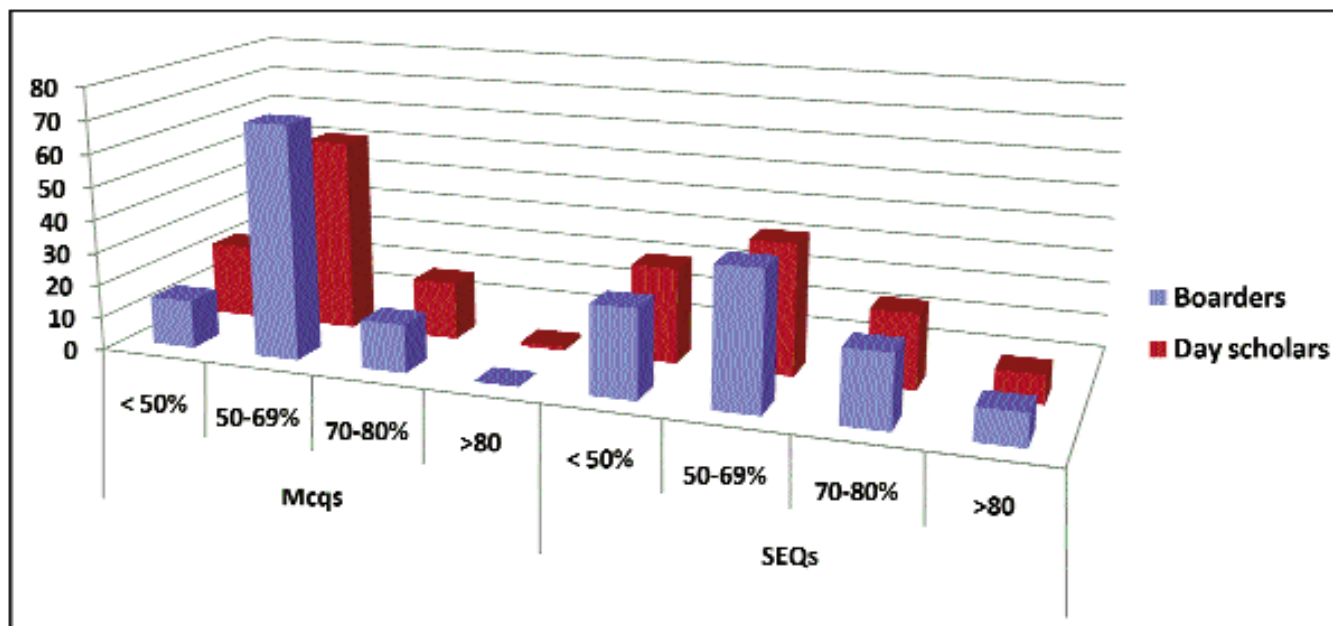


Figure: Comparison of boarder and day scholar students in MCQs & SEQs exams.

14(8.8%) in Group 4($p=0.984$) (Tables-1 and 2; Figure).

Discussion

Students' academic gain and learning performance is affected by numerous factors including gender, age, teaching faculty, schooling, father/guardian social economic status, residential area, daily study hours and accommodation as hostelites or day scholars.¹⁰ Academic performance of day scholars and boarders has been the subject of intensive research over the recent years. It has become a matter of quality and standards in education.¹¹ A lot of researches have been conducted on the subject. Some researchers believe that it depends upon the students themselves; they think it to be a pure individual effort that counts.¹²

When the academic performance of the boarder and day scholar students in MCQs was compared, no significant difference was found. Similarly, no significant difference was found when the two study groups were compared in SEQs.

Previous studies from various academic institutes in different countries have reported varying results when the day scholars and boarders were compared academically. Some studies found boarders to be good in studies, some proved the performance of day scholars to be good than the boarders while some revealed no difference between the two groups.

A study was conducted on the academic performance of the Somali students which revealed that the performance of day scholar students in academics was poor due to lack of parental contribution and support.¹³ Another study was

performed by Oloo in Kenya who also found the performance of boarders to be better as compared to day scholars.¹⁴ Mackenzie explored the major factors affecting the academic achievement of the two groups of students and concluded that it was the stressed home environment and excess of work at home responsible for poor academic performance of day scholars.¹⁵ A similar study was conducted by Grantham et al., which favoured the same results.¹⁶

A study by Coady and Parker in Mexico revealed that comparatively day scholars were poorer in academics. When the results were further evaluated, the possible reason found for their poor academic achievement was long distance of the school which made them exhausted.¹⁷ Studies conducted in Africa and in Kenya supported these results.^{18,19}

In contrast, a study in China favoured the better performance of day scholars.²⁰ A similar study conducted in Pakistan showed the same results.²¹ A study conducted in India showed that day scholars are better academically. Boarders are mostly deprived of sleep which affects their academic performance.²² Another Indian study found day scholars to be better in academics as compared to hostelites.²³ Dambudzu in 2005 also evaluated the academic achievement of day scholars and boarders. When the result of the two groups were compared, the students who lived at home were found to be better than the hostelites.²⁴

Khan et al. evaluated the academic performance of

dayscholar and boarder students in Pakistan with reference to their collective grade point average (GPA) in first semester and cumulative grade point average (CGPA) in sixth semester. No significant difference was found between the two groups. Above 3.00 GPA in first semester was scored by more than 50% students of each group. Similarly, above 3.00 CGPA in sixth semester was scored by a clear majority of dayscholars and boarders. Khan concluded that with some minor variation, both hostel and home provide almost the same environment for studies.²⁵

Small sample size and the use of only one institution are some of the limitations of this study, therefore, its results cannot be generalised. We recommend that similar studies should be conducted at a countrywide level.

Conclusion

No significant difference was found between the academic performance of boarder and day scholar students.

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