ORIGINAL ARTICLE

Correlation between Admission Criteria and Academic Performance in Medical and Dental Colleges of Khyber Pakhtunkhwa

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ABSTRACT

Aim: To evaluate the connection among admission criteria and academic performance amongst medical and dental scholars of different institutes of Khyber Pakhtunkhwa.

Study design: Quantitative-cross-sectional study.

Study setting: Department of Medical Education of Khyber Medical University, Peshawar from 15th February to 15th July 2017.

Methodology: Ten thousand and sixty one students attending 10 Medical colleges of KP from entering for qualification who were registered in the 2017, 2018, 2019, 2020, 2021 and 2022 academic sessions.

Results: Intermediate marks (with median =0.22) have noteworthy correlation (both at 0.05 & 0.01 points) with all 5 professional exam marks of all medical sample scholars, trailed by Merit and Entrance test (0.33 and 0.19 median marks). The relationship for merit and entrance marks was also noteworthy for all of the cases excluding for 3rd year.

Conclusion: All the forecasters (intermediate, entrance test and merit marks) were meaningfully linked with all 5 MBBS examination marks of all the medical colleges, in nearly all the six units. Though, stepwise regression analysis uncovered that amongst the analysts, from 1st to 4th year, Intermediate was establish the finest analyst, tracked by merit and entrance score whereas for the fifth year; merit was the finest analyst, trailed by entrance test and Intermediate scores.

Key words: Educational Testing and Evaluation Agency (ETEA), Predictive validity,

INTRODUCTION

Admittance standards are one of the main pointers to forecast academic show.[1] Education related experts are concerned in recognizing main features which can forecast academic performance. Studies propose that severe authenticated admittance standards can forecast the decline failure frequency and lead to effective conclusion of program.[2] The admittance standards establish non-cognitive and cognitive aspects.[3] Cognitive variables comprise former theoretical results, aptitude tests, admittance tests, while non-cognitive features include race, gender, age, former knowledge, character and culture. Numerous cognitive and non-cognitive features are set in the admittance criteria to recognize and select students who can effectively widespread their selected programs[2]. Accessible proof proposes that well-expressed admittance criteria counting a mixture of non-academic and academic features can forecast improved academic show[4]. Admittance conditions to certificates and baccalaureate degrees in medicine and dentistry in Pakistan primarily comprise of former theoretical results and entrance tests marks, gender, age and marks of interviews. Admittance standards have not been investigated to notify as it is a solid predictor of theoretical presentation[5].

Most graduate programs specify that undergraduates meet definite elementary academic provisions, to be measured for admittance[6]. It is a recognized concept over the globe that, owing to the obvious alteration in the excellence & structure of categorizing in the secondary institutes, it would be exceptionally biased if admittance conclusions are grounded merely on secondary institute results[7]. For itself, it is now a normal exercise in numerous nations to have even tests for admittance to the universities[8]. This could take the process of any aptitude or success assessments, or both. Whereas skill tests centre on evaluating the vocal and mathematical skills and are frequently "general" in nature attainment exams are destined to measure activities of the applicants and are frequently grounded on firm strategies and ideas that the students are probable to absorb in forthcoming[9,10].

Recently, the proportion of the high school exams i.e. F.Sc were the only basis on which college admittance weightage was decided. This made the odds of admittances to medical and dental

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college variable from college to college. Admittances frequently rest on the superiority of education at the college, type (MBBS and BDS), its location and so on.[5,11] Additionally, the higher school exams consist numerous topics like Mathematics, Science subjects i.e., chemistry, physics, etc. It is this variation that encouraged scholastic bureaucrats (1998) to plan a uniform admittance test in NWFP (now KPK)[12].

As healthier scores on uniform eligibility tests are dignified as an elementary form for admittance to campus programs.[13] This is grounded on the supposed design that, knowledge being an acquisitive procedure, student acknowledged by higher entrance requirement is predictable to be well arranged for the course gratified than those with worse credentials[14]. Few of studies led in numerous areas of the world to catch out the association among brilliance in admissibility exams & theoretical performances[15-18].

The eligibility test conducted in Pakistan nowadays is MDCAT (Medical & Dental College Admittance Test) for private and public medical and dental colleges throughout Pakistan, the setup of the assessment is of best-choice questions and passing marks are 65% for admittance in medical and dental colleges approved by PMC (Pakistan Medical Commission)[19].

The goal of the current study was to estimate the link among admittance criteria and theoretical performance amongst medical students of different medical colleges in Khyber Pakhtunkhwa, Pakistan.

MATERIALS AND METHODS

This was quantitative-cross-sectional study, carried out at the Department of Medical Education of KMU from 15th February to 15th July after approval from IRB (Riphah/IRC/22/2017). The inclusion criteria was the previous records of all medical students enrolled in public sector medical colleges, under Khyber medical university, Khyber Pakhtunkhwa Pakistan while those who fail to conclude the course due to any reason were excluded.

Data was obtained from the students' private records & admittance histories while information about academic performance in MBBS program was attained from exams unit of KMU, Peshawar. The study variables comprised former theoretical grades measured in ratio attained in Matric (Secondary school certificate), FSC, entrance test marks, age and gender of the scholar at the stint of admittance. The data was entered and analyzed through SPSS-25. Regression analysis, Pearson's correlation analysis and t-test were carried out.

RESULTS

The year of college and gender wise details were shown in Tables 1-2. Intermediate marks (with median =0.22) have noteworthy correlation (both at 0.05 & 0.01 points) with all 5 professional exam marks of all medical sample scholars, trailed by Merit and Entrance test (0.33 and 0.19 median marks). The relationship for merit and entrance marks was also noteworthy for all of the cases excluding for 3rd year (Table 3).

Table 1: Year-wise samples of the study (n=10061)

Year	No.
2017	1290
2018	1519
2019	1680
2020	1709
2021	1801
2022	2062

Table 2: College and gender-wise cluster of medical scholars

College	Male	Female
1	803 (53.4%)	697 (46.6%)
2	770 (49.7%)	780 (50.3%)
3	-	650 (100%)
4	550 (58%)	400 (42%)
5	700 (63.4%)	403 (36.6%)
6	870 (74.3%)	300 (25.7%)
7	745 (61.4%)	467 (38.6%)
8	439 (60.2%)	290 (39.8%)
9	390 (65%)	210 (35%)
10	390 (65.3%)	207 (34.7%)
Total	5657 (56.2%)	4404 (43.8%)

Table 3: Correlation of overall medical scholars

Forecasters	I Year	II Year	III Year	IV Year	V Year	Range	Median
Intermediate	.433*	.300*	.456*	.150*	.211*	.17-.46	.22
Sig. (2-tailed)	.000	.000	.000	.000	.000		
Entrance Test	.307*	.076*	.177*	-.037	.270*	-.03-31	.19
Sig. (2-tailed)	.000	.002	.000	.387	.000		
Merit	.270*	.222*	.369*	.039	.330*	.06-.32	.33
Sig. (2-tailed)	.000	.000	.000	.330	.000		

*$P<0.05$

DISCUSSION

All Public Medical & Dental Colleges of Khyber Pakhtunkhawa below the organizational regulator of provincial government were nominated for this current research. The methods for this study were scholars' marks which they scores in their individual institutes working under the umbrella of Khyber Medical University, Peshawar. The marks in respective examinations at their individual medical and dental colleges were obtained from the place of work of the supervisor of exams Khyber Medical University Peshawar. The statistics of those students, whose data were partial, or were not according to inclusion criteria, were excluded from the study.

The investigation displays that there is noteworthy association of the 3 forecaster variables with all 5 professional exams grades of the ten medical institutions' sample. Of the 3 predictor variables, Intermediate marks were the most stalwartly associated with the standard (outcome) variables, trailed by Merit & entrance test. Intermediate scores were significantly correlated with all the standard variables (both at 0.05 & 0.01 points), in 2017, 2018, 2020, 2021, & 2022 cohorts, while in the year 2019 cohort, merit of total marks was on the top, followed by Intermediate marks and entrance test marks correspondingly. The outcomes are reliable with previous cogency investigations[20-22].

The results recommend that from 1st toward 4th year the qualified teaching of Medical schools is more bookish then practical as final professional & thus, the Intermediate course which is mainly theoretical grounded too is the best predictor. Though, the final year Medical teaching which is mostly practical involves reasonable and cognitive abilities. Henceforth the merit standards appear the best analyst for theoretical attainments in the Medical colleges. As the merit criteria characterize 40% of the entrance test marks, hence, the bearing of entrance test is valuable to forecast theoretical presentation of Medical students in the 5th proff exams. These results are reliable with the results of Kleshinski et al[23], McIntosh et al[24] and Ferguson et al[25].

Kleshinski[23] assessed more than thirty features, as analysts of university marks in mandate to regulate, which would finest foresee college results/effects. He established that only 6 of the aspects were meaningfully connected with scholars' theoretical accomplishments in college and graduate school GPA of the scholar was the sturdiest forecaster of college scores. Though, the outcome of the current investigation for the medical sample was conflicting to the results of Mitchell et al[26], Basco et al[27], Dixon[28],

Julian[29] and Donnon et al[30] decided that the MCAT & UGPAs individually add somewhat exclusive to the forecast of medical institute marks, and so the mixture is additional influential than any analyst only.

Similarly, the current study points out numerous classic boundaries of test authentication research like single college, nonetheless at the similar period; it is not permitted from all boundaries. It's documented that procedural difficulties instigated by extremely correlated admittance procedures, small department sizes, a limited variety of aptitude amongst admitted scholars, & restricted difference in alumna marks of the students of the contributing institutes. Location of medical colleges also impact the outcome of results of medical student's professional marks i.e., medical colleges located in Peshawar, Abbottabad performed better then colleges in Southern or backward area of Khyber Pakhtunkhwa. The reason behind this might be due to the refreshment and environment in big cities as compared to Bannu, Dera Ismail Khan or Gujju Khan. As medical studies are very strain and need refreshment/ outing but facilities available at these locations are not as compared Peshawar or Abbottabad. That's also the reason behind the higher selection merit of College 1, College 2, College 3 and College 5 that people of Bannu, Waziristan also select College 1 etc as their first-choice medical college at the time of admission.

CONCLUSION

All the forecasters (Intermediate. Entrance test and merit marks) were meaningfully linked with all 5 MBBS examination marks of all the medical colleges, in nearly all the six units. Though, stepwise regression analysis uncovered that amongst the predictors, from 1st to 4th year, Intermediate was establish the finest analyst, tracked by merit and entrance score whereas for the fifth year; merit was the best analyst, trailed by entrance test and Intermediate scores.

Conflict of interest: Nothing to declare

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