ADMISSION CRITERIA AND SUBSEQUENT ACADEMIC PERFORMANCE OF MEDICAL STUDENTS AT THE UNIVERSITY OF CALABAR

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ABSTRACT

A correlational study was carried out to assess the relationship between admission criteria into Nigerian Universities and subsequent academic performance of medical students at the College of Medical Sciences, University of Calabar. A total of 162 students (133 males and 29 females) from five sets of graduands (1990-95) who met the selection criteria were surveyed. Their mean scores at West African School Certificate Examination (WASC) and Joint Admission and matriculation Board Certificate (JAMB) Examination were compared with their subsequent academic performance at school. The relationship between these parameters and academic performance was assessed using multiple regression analysis and correlation coefficient statistical methods.

The study showed that there was a positive correlation between the WASC scores of the candidates and their subsequent academic performance in the medical School. However, there was a negative correlation between Joint Admission and Matriculation Board Examination scores of the Candidates and their subsequent academic performance. Also in the multiple linear regression analysis of the relationship between academic performance and the two parameters, West African School Certificate Scores were directly related to the academic performance and was statistically significant whereas Joint Admission and Matriculation Board scores did not correlate significantly. Thus, the present admission criteria into our Universities does not reflect merit as a major criterion for admission of students as reflected in the study.

KEYWORDS: ADMISSION, CRITERIA, ACADEMIC PERFORMANCE

INTRODUCTION

Admissions into Nigerian Universities in general and Medical Schools in particular are very keenly competitive. This is because the number of candidates seeking admission into the University in any given year far outstrips the number of spaces available in the Universities. The Joint Admission and Matriculation Board (JAMB) which conducts the admission exercise in Nigeria has certain criteria which include merit among others in selecting the candidates to be admitted (JAMB 1997). This body was established by degree No. 2 of 1978 as amended by Degree 33 of 1989.

The University of Calabar as a Federal Institution had the following admission guidelines during the period under review (1990-95) 40% for merit, 30% for locality, 20% for educationally less developed states and 10% for University discretion (NUC, 1998). This brings the total percentage of preferential admission criteria to 60% as against 40% for merit. The Government in principle supports education even though the budgetary allocation to education has consistently remained below the recommended level. (Nkanginieme 1998). This may probably explain the decision of the Federal Government to maintain this central admission agency but with different criteria depending on the states of origin of the candidate. Based on these criteria, admission into the Universities is very difficult and some parents and candidates have seen the annual exercise as a do or die affair. Most educationists also believe that one of the reasons why admission into the Universities has become a Herculean task is the admission criteria currently used by the Federal Government (Prutt, 1990). The situation is even more difficult for professional courses such as medicine and Engineering because of the large number of candidates seeking admission for such courses. Thus, there may be need to review our Medical education criteria and curriculum with specific national goals, interest and targets in mind as outlined in the consensus priorities by Ogunbode, (Ogunbode 1997). This study therefore seeks to establish the relationship between admission criteria and subsequent academic performance of the Medical students at the University of Calabar during the training period. The result of this study will assist in determining appropriate admission policy for a successful training of Medical students.

SUBJECT AND METHODS

This study was carried out at the college of Medical sciences, University of Calabar. The study received the

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approval of college authority and strict confidentiality of the students was maintained.

(A) STUDY DESIGN

Five sets of graduands (1990-95) from the College of Medical sciences were used for the study. Those excluded from the study were students who were admitted through direct entry and students with incomplete data in their personal file. Thus the total number of students screened was 314 and after applying the exclusion criteria mentioned above, 162 students consisting of 133 males (81.1%) and 29 females (17.9%) were used in the final study.

The personal files of these students that formed the study group were carefully examined and reviewed. The relevant data like Joint Admission and Matriculation Board score, aggregate West African School Certificate (WASC) score and marks scored in each subjects were recorded in a protocol sheet prepared for each student. The performance of the student was assessed by calculating the mean scores of the graduate in the 12 major subject areas from all the four professional examinations sat for during the training programme. In the case of resit examination, the aggregate score of the marks recorded from the number of resits in a particular subject was taken and not the final pass mark from a resit examination.

(B) METHODS OF ANALYSIS

The students were equally divided into 3 groups (A,B,C, n = 54) based on the degree of performance, JAMB score and aggregate WASC score with group A Students being the best and group C the least performing group. The JAMB scores were then compared with the degree of performance in each group. Similarly, the aggregate WASC scores of each student in each group were compared with the performance of the students in that group. The results were expressed as means and standard deviation.

The Multiple regression analysis and pearson correlation coefficient were used to test the relationship between academic performance and other parameters like Joints Admission and Matriculation Board (JAMB) and West African School Certificate (WASC) scores. The statistics program SPSS package on an IBM-AT Computer was used for this analysis and p-Values less than 0.05 were taken to imply statistical level of significance. Using the above statistical method, the relationships between the JAMB score, aggregate WASC score and subsequent performance of the students in each group were thoroughly evaluated.

RESULTS

Out of 162 students surveyed during the period, 133 (83.1%) students were male while 29 (17.9%) students were female with a mean age of $19.6 \pm .02$ years. The mean scores of the 162 students based on academic performance p, JAMB Scores J and WASC scores W are shown in table 1. Table II shows the study group based on WASC scores with corresponding JAMB scores and academic performance. The higher WASC scores correlated with high academic performance of the

TABLE 1
ACADEMIC PERFORMANCE (P) JAMB AND (J)
WASC (W) SCORES OF THE STUDY GROUP (n = 162)

CRITERIA	MEAN SCORES±
P =	52.9+ 0.2 (range 47.1 - 61.0
J =	266.3± 1.2 (range 219 - 306)
W =	18.7 ± 0.4 (range 6 - 30)

TABLE 11
STUDY GROUPS BASED ON WAEC SCORES:
CORRESPONDING JAMB AND PERFORMANCE

GROUPS	WAEC SCORES	JAMB SCORES	PERFORMANCE (%)
A (n - 54) WASC SCORES: 6 - 17	13.0± 0.4	270.7 ± 2.0	54.1 ± 0.3
B (n - 54) WASC SCORES: 17 - 21	19.1 ± 0.2	262.1 ± 2.3	53.2 ± 0.3
C (n 54) WASC SCORES: 21 - 30	24.2± 0.3	266.1 ± 1.9	52.3 ± 0.3

TABLE 111
STUDY GROUPS BASED ON JAMB SCORES: CORRESPONDING WASC
SCORES AND PERFORMANCE

GROUPS	Mean WASC SCORES	Mean JAMB SCORES	Mean PERFORMANCE (%)
A (n - 54) JAMB SCORES: 273 - 306	13.0± 0.4	270.7 ± 2.0	54.1 ± 0.3
B (n - 54) JAMB SCORES: 261 - 273	19.1± 0.4	262.1 ± 2.0	53.2 ± 0.3
C (n - 54) JAMB SCORES: 219 - 261	24.2± 0.4	266.1 ± 1.9	52.3 ± 0.3

TABLE 1V
STUDY GROUPS BASES ON PERFORMANCE:
CORRESPONDING JAMB AND WASC SCORES

GROUPS	PERFORMANCE	WASC SCORES	JAMB SCORES
A (n - 54) (P = 53 . 8 - 61.0)	55.6 ± 0.2	16.8 ± 0.8	267 ± 2.3
B (n - 54) (P = 51.7 - 53.8)	52.6 ± 0.1	262.1 ± 2.3	268.5 ± 1.9
C (n - 54) (P = 47.1 - 51.7)	50.4 ± 0.1	266. 1 ± 2.3	262.9 ± 0.1

students and not high JAMB scores. Similar study groups based on JAMB scores with corresponding WASC scores and performance is illustrated in Table III. There was no clear correlation between JAMB scores and academic performances as students in group B (2nd best) recorded best performance.

The academic performance of students in each group was more dependent on WASC scores than JAMB scores as shown in table IV where performance is matched against the two parameters. Thus, the lower the aggregate WASC scores, the better the academic performance of the students and vice versa.

Eight-three students under study had resits examination during the period of their training programme (Table V). Students with high mean WASC scores of between 19.2 –21.1 formed the bulk of the students with resits irrespective of the fact that they had a better mean JAMB score of between 262-265.

Table VI A & B show the correlation coefficient r and multiple regression analysis of the various groups of students. When the academic performance is compared with JAMB scores and WASC scores respectively, there was a positive correlation between the aggregate WASC scores in each group and subsequent academic performance (r = 0.125 .p <0.001; r = 0.105 p < 0.001 and r = 0.216 p < 0.05) respectively for group A, B and C. Conversely,

there was a negative correlation between the JAMB scores in each group and subsequent academic performance (r = -0.529 p < 0.01. r – 0.223 p < 0.05, r = - 0.20, p < 0.05) respectively for group A, B, and C.

In the multiple linear regression analysis of the relationship between academic performance and the two parameters, WASC scores were significantly related to the academic performance of the students whereas JAMB scores did not relate significantly.

DISCUSSION

Admissions into higher Institutions in Nigeria though highly competitive have been subject of numerous criticisms of recent. It is argued that it discriminates against candidates from the so called educationally advance states because of the excessive weight placed on the preferential criteria vis a viz. merit criterion. (Ogbuagu 1990).

The Nigerian trained doctor at undergraduate level achieves a high academic excellence and maintain same status in postgraduate residency training programme worldwide (Ogundele 1990). Similarly, majority of the medical students performed above average in their various Senior Secondary Schools (Nwadiaro 1998). This academic status is being gradually eroded as evident in the result of this survey which has shown that merit is significantly subordinated to preferential criteria in

admission exercise. This is exemplified by the lack of correlation between the JAMB scores of the candidates and subsequent academic performance of Medical students during training.

Thus, with other perceived short comings in undergraduate medical education such as paucity of instructional aids, lack of adequate facilities and manpower for teaching, the future of medical education in this country may be jeopardized. These, therefore call for necessary corrective measure to be taken which should include a possible review of the admission policy in our medical schools. There is an urgent need to look for a more realistic method of student admission that will possibly reflect merit more than preferential criteria in admission guidelines. In addition aptitude test assessment as suggested by some educationist, should be conducted to determine candidates' interest and capability in a particular course or profession (Oninji 1990, Entwistle 1997). Indeed, Nigerians would want a reasonable and acceptable balance struck between merit and preferential approaches for admission into Federal Universities.

It may also be suggested that the Nigerian Medical and Dental Council; the Nigerian Medical Association and the postgraduate Medical colleges should be involved in the selection of candidates for admission into Medical Schools based on an acceptable criteria so as to stem the

gradual slide in our Medical education. The goals achieved in our five decades of conventional medical education and practice may be easily eroded if the right calibre of students are not admitted as a result of little emphasis on merit criterion.

Furthermore, in the past three decades, there have been vast changes within the socio-economic and political spheres of Nigeria as well as in the educational sector.

Medical education appears to be badly affected in these soico-economic processes. The consequences of this dismal situation for the nation are quite adverse. An editorial comment in NJM has therefore strongly recommended immediate action to be taken to stem further rot. (NJM 1995). We believe that the time is now ripe for the government to review the admission criteria into our Institutions with a view of improving the standard of academic performance of the students and graduates significantly above the products of the system that excessively applies the politicized preferential criteria.

Curriculum evaluation which also involves admission procedures review and performance of students has been advocated in our Medical education programme in Nigeria in order to improve the health of the society

TABLE V
STUDY GROUPS BASED ON NUMBER OF RESIT

GROUPS	MEAN NUMBER OF RESITS	PERFORMANCE (%)	WASC SCORES	JAMB SCORES
A (n-26) RESITS: 1-4/STUDENT	2.2 ± 0.1	19.2 ± 0.4	19.2 ± 0.3	$265 \pm 2(N=58)$
B(n-36) RESITS 5-8 / STUDENT	7.7 ± 1.7	51.1 ± 0.2	21.4 ± 0.9	264 ± 3.9 (N=14)
C (n –54) RESITS: 9 & ABOVE/STUDENT	12 ± 0.5	49.3 ± 0.2	21.4 ± 0.8	265 ± 6.2 (n = 11)

TABLE VI– A
CORRELATION COEFFICIENT AND MULTIPLE REPRESSION ANALYSIS BETWEEN MEAN JAMB SCORES AND PERFORMANCE

GROUPS	MEAN PERFORMANE + SD	MEAN SCORES SD	MULTIPLE REGRESSION R - VALUES	P - VALUE	COEFFICIENT (r)	P-VALUE
A (n=54)	54.1 ± 0.4	270.7 ± 2.0	1.180	0.10 N. S.	-0.529	P 0.01
B (n=54)	53.2 ± 0.3	262.1 ± 2.3	1.233	0.10 N.S	-0273	P 0.05
C (n-54)	52.3 ± 0.3	226.1 ± 1.9	1.462	0.10 N. S.	-0.29	P 0.05

N.S. Not significant

TABLE VI – B
CORRELATION COEFFICIENT AND MULTIPLE REGRESSION ANALYSIS
BETWEEN MEAN WASC SCORES AND PERFORMANCE

Group	Mean performance +SD	Mean WASC Scores +SD	Multiple Regression Analysis R-Values	P-Value	Correcoeff. (r)	P. Value
A N=54	54.1 ± 0.3	13.0 ± 0.4	5.07	0.001	0.125	P 0.001
B N=54 53.2 ± 0.3	53.2 ± 0.3	19.1 ± 0.2	3.186	0.01	0.105	P 0.001
C N=54	52.3 ± 0.3	24.2 ±0.3	5.18	0.001	0.216	P 0.05

(Ohaegbulam 1979). Therefore, in keeping with this evaluation, there is need for the Federal Government to review the admission guidelines in favour of merit to enhance the performance of the students in training as reflected in this study.

CONCLUSION

In conclusion, this study has amply demonstrated that merit criterion which ensures a better academic performance of student is a more reliable index of selecting candidates for admission into our Nigerian Universities than the over politicized preferential criteria presently used by Joint Admission Matriculation Board. Rational and objective criteria should be used to admit students if a need for selection exists (Denga 1991).

ACKNOWLEDGEMENTS

We are grateful to the authority of the college of medial sciences, University of Calabar for granting us the permission to carry out the study.

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