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The specialty choice of clinical year students at the Ibadan Medical School

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Summary

This is a cross-sectional study of first and final year clinical students of the University of Ibadan, aimed at highlighting the students' preference for specialties, its evolution in the course of training and its correlation with demographic variables. One hundred and twenty-one first year clinical and 150 final year students participated, representing 81% and 89% response rates, respectively. Whereas at the time of study 92.9% of the students intended to specialise, over 81% of this group opted for surgery, internal medicine, paediatrics, obstetrics and gynaecology and general practice. Only 5.5% of the cohort chose radiology, psychiatry, community medicine, anaesthesia and pathology. Surgery was the most popular specialty. No socio-demographic factors seemed associated with specialty choice. Specialty choice, evident before entry into the University in 42.9% of the cohort, evolved during the course of training, being affected mainly by interest aroused during the postings and the need for self-fulfilment. Specialty choice tended to fluctuate over the years. Innovativeness and dedication on the part of teachers can arouse the interest of students during posting, so that specialty choice can be more evenly spread to meet national health manpower needs.

Résumé

Ce-ci est une étude de coupe transversale des étudiants en première et dernière années de l'Université d'Ibadan qui reflète leur préférence dans les spécialités médicales dans le cours du programme de clinique, l'évolution au cours de la formation et la corrélation des variables démographiques. Cent vingt et un étudiants dans l'année première et cent cinquante étudiants de l'année dernière du programme clinique ont participé, représentant 81% de les réponses respectivement.

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Au moment de l'étude, 92.9% des étudiants voulaient faire une spécialité, plus que 81% de ce groupe ont choisi la chirurgie, la médecine interne, la pédiatrie, obstétrique et la gynécologie et la médecine générale. 5.5% du cohort ont choisi la radiologie, psychiatrie, la médecine publique, l'anesthésie et la pathologie. La chirurgie était la spécialité populaire. Le choix n'a été pas affecté ou influencé par des variables socio-démographiques.

Le choix de spécialité avant l'entrée dans l'Université de 42.9% des étudiants a changé pendant la formation clinique, et cela est sous l'effet de leur intérêt développé pendant les cours médicaux et le besoin d'accomplissement ou de réalisation. Le choix a tendance de ce varier sur une période de plusieurs années. L'innovation et le dévouement des professeurs éveillent l'intérêt des étudiants, et le choix fait est bien fait pour satisfaire les demandes de la santé nationale.

Introduction

The development of specialty choice has fascinated medical educators for a number of years. Such interest emerges in part from the fact that, despite the homogeneity of the undergraduate student body and their exposure to a very similar curriculum, medical graduates become involved in vocations that are sharply dissimilar [1]. For instance, the psychiatrist and the surgeon work in very different kinds of settings and require very different kinds of skills and interests.

The problem confronting medical education and health care delivery is that, whereas workers are needed in all the specialties in order to execute any meaningful national health programme, only some specialties are favoured by most medical graduates [2,3]. One way of remedying this situation is by enquiring into factors affecting student specialty choice and attitude.

This is a two-part study, aimed at highlighting students' choice of specialty and attitudes towards

ten specialties, viz: radiology, surgery, community medicine (CM), psychiatry, pathology, internal medicine, general practice, anaesthesia, paediatrics and obstetrics and gynaecology (O & G).

The part of the study being reported in this paper focussed on the choice of specialty, its evolution, its vicissitudes in the course of training and its correlation with demographic variables.

Methods

The study was a cross-sectional total class survey of first and final year clinical students of the University of Ibadan in the 1987/88 academic session.

Permission was obtained from the College of Medicine authorities to administer a self-report questionnaire to clinical year students. The two classes were studied simultaneously, near the end of the academic session. The questionnaires were administered, with consent of the students, immediately after lectures. The purpose of the study was explained to the students in class, and they freely opted to complete the questionnaires anonymously. All the students in the classes on the various days of study agreed to participate. The questionnaires were all completed in class in an average duration of an hour. All the items in the questionnaire having been explained, the research team remained with the students in case there were areas that needed clarification. Before the actual commencement of the study, the questionnaire was pre-tested on a few students who were not in the study classes.

The questionnaire

The questionnaire is in two parts, and the results of the second part have been prepared for report elsewhere. The first part of the questionnaire, the result of which is being presented here, has 29 items. It sought information on socio-demographic areas including size of family and sibling rank, academic

performance in medical school, specialty preferences, the evolution of specialty preferences and the reasons for such preferences. The questions were framed in an open-ended manner so that respondents were free to state in their own words the reasons for specialty of choice.

In the analysis of data, it was possible to organise the responses on reasons for specialty choice into the following areas: economic gratification (e.g. to be materially comfortable); self-fulfilment (e.g. interesting, challenging); service to humanity (e.g. its use to community boosting manpower need); parental influence; academic fulfilment ("I was the best in my class"); moderate workload or preference because of sex; easy understanding of subject; and societal recognition.

Results

One hundred and twenty-one (121) first year clinical and 150 final year medical students completed the questionnaires. Percentage responders in the first and final year classes were 81% and 89.3% respectively. The male: female distribution for the first year class was 2.8:1, while that for the final year was 3.1:1. For the first year class, age range was 19-32 years, mean 22.17 ± 2.19 years, while for the final year it was 20-34 years, mean 23.10 ± 2.43 years. There was no significant difference in age between the two classes ($P > 0.05$). Table 1 shows the age distribution of the students. Majority in the two classes were aged 20-24 years.

Family background

Table 2 shows that commonly, the students hailed from large families where polygamy was rife (39.6% and 36.7% in the first and final years, respectively), majority of the families consisted of 4-6 siblings, the parents were typically alive, and of middle class

Table 1: Age distribution of clinical year students

Age range	First			Final year		
	M	F	Total	M	F	Total
19	5	1	6(5%)	—	—	—
20-24	64	25	87(73.6)	64	34	98(65.3%)
25-29	14	1	15(12.4%)	49	—	49(32.7%)
30-34	1	—	1(0.8%)	3	—	3(2.5%)
Not stated	—	—	10(8.3%)	—	—	—

Table 2: Family background

Status	First Year	Final Year
Father alive	108 (89.2%)	117 (78%)
Mother alive	112 (92.6%)	135 (90%)
Monogamous home	72 (59.6%)	95 (63.3%)
Polygamous home	49 (39.6%)	55 (36.7%)
<i>No. of other of mother's children alive:</i>		
1 —	1 (0.8%)	3 (2%)
2 —	3 (2.5%)	8 (5.3%)
3 —	11 (9%)	10 (6.7%)
4 — 6	82 (67.8%)	100 (66.7%)
7 and above	23 (19%)	17 (11.3%)
Not stated	1 (0.6%)	12 (8%)
<i>Sibling rank:</i>		
1st	42 (34.7%)	43 (28.8%)
2nd	26 (21.5%)	35 (23.3%)
3rd	18 (14.9%)	22 (18.3%)
above 3rd	35 (28.9%)	50 (33.3%)
<i>Occupation of father:</i>		
Retired senior civil servant	7 (5.8%)	18 (12%)
Senior civil servant/Armed forces	32 (26.4%)	44 (29.3%)
Senior professional in private practice	7 (5.8%)	18 (12%)
Big businessman	20 (16.5%)	15 (10%)
Middle level civil servant	9 (7.4%)	1 (0.7%)
Junior civil servant	4 (3.3%)	6 (4%)
Artisans	12 (9.9%)	5 (3%)
Not stated	30 (24.8%)	43 (28.7%)

background. No sibling rank greatly predominated over the others. Only 5(4%) of the first year class and 12(8%) of the final year were on scholarship.

Academic Performance

All of them, except one final year student, entered the University in the early eighties.

Eight of the first year students and four of the final year had done a bachelor's degree in science before entering the medical school. Forty-six (38%) of the first year and 90(60%) of the final year class had been referred in at least one course in the medical school.

Evolution of decision to specialise, specialty choice and reasons for specialisation

By the clinical years of study, 112(92.6%) of the first year and 140(93.3%) of the final year students had decided to specialise (Table 3). Of those deciding to specialise, 21(17.4%) of first year and 12(8%) of final year class were yet to choose a field. This decision to specialise evolved over the years. Before entry into the University, 54(44.6%) of the first year and 62(41.3%) of the final year had taken the decision; in the preclinical years, this number increased to 76(62.8%) among the first year and 92(61.3) for the final year.

The choice of specialty itself also evolved over the years (Table 4). Surgery was the most popular field. Before entry into the University, 17(14%) of

the first year and 30(20%) of the final year had chosen surgery; at the preclinical level, this increased to 39(32.2%) and 41 (27.3%) respectively, for the two classes; and by the time of study 50 (41.3%) of the first year and 55(36.7%) of the final year preferred surgery. Obstetrics and Gynaecology was

the next most popular, with the number of final year students preferring it increasing from 12(8%) before entry into the University, through 18 (12%) at pre-clinicals, to 40 (26.7%) at the time of study. A similar trend of evolution of choice was noticeable among those in the final year for paediatrics.

Table 3: Evolution of decision to specialise

Intend to specialise?	First year	Final year
Yes	112 (92.6%)	140 (93.3%)
No	9 (7.4%)	10 (6.7%)
Intend to, but not sure which	21 (17.4%)	12 (8%)
<i>Consider specialisation in preclinicals?</i>		
Yes	76 (62.8%)	92 (61.3%)
No	42 (34.7%)	57 (38%)
Not sure	3 (2.5%)	1 (0.6%)
<i>Consider specialisation before admission?</i>		
Yes	54 (44.6%)	62 (41.3%)
No	63 (52.1%)	83 (55.3%)

Table 4: Evolution of specialty choice

Specialty	Before Entering University			At Preclinicals			At Present		
	1st Yr.	Final Yr.	Total	1st Yr.	Final Yr.	Total	1st Yr.	Final Yr.	Total N = 271
Radiology	1	—	—	1	—	—	1	—	1(0.4%)
Surgery	17	30	—	39	41	—	50	55	105(38.7%)
Community medicine	1	—	—	1	—	—	2	—	2(0.7%)
Psychiatry	1	2	—	2	5	—	3	2	5(1.8%)
Pathology	1	1	—	1	1	—	3	2	5(1.8%)
Internal medicine	1	—	—	—	2	—	7	6	13(4.7%)
General Practice	3	2	—	2	3	—	5	4	9(3.3%)
Anaesthesia	1	—	2	1	—	—	2	—	2(0.7%)
Paediatrics	4	7	—	8	14	—	13	20	33(12.2%)
O & G	1	12	—	4	18	—	6	40	46(17%)
Not sure which to choose	—	—	—	10	3	—	21	12	—
Basic Med. Sciences	—	1	—	1	—	—	—	—	—

Among the first year, this trend, though apparent, was not marked for O & G and general practice; and in the case of paediatrics, there was an appreciable shift from four before entry into University through 8 preferring it at preclinical years, to 13 (10.7%) choosing it at the time of study. In the remaining specialities (radiology, community medicine, psychiatry, pathology, internal medicine, and anaesthesia) there were no marked shifts in the choice of these specialties with years in training.

In general, specialty preference varied during the course of training and an appreciable degree of stability of choice was only evidenced in the case of those who chose surgery. For instance, of the 50 first year students who preferred surgery, 26 (52%) made the decision either before entering the University or by the preclinical years, and sustained this preference all through to the time of study. Twelve (24%) of them had preferred other specialties in earlier years, and in 11(22%) cases there were no definite choices at the preclinical level. Also, among the 55 final year students who preferred surgery, 22 (40%) made the decision either before entering the University or by the preclinical years, and sustained this preference all through to the time of study. Seventeen (31%) of these final year students had preferred other specialties in earlier years. In the other specialties, however, there were wide fluctuations of choice with increasing years in the medical school. For instance, among the 13 first year students and 20 in the final year who preferred paediatrics at the time of study, only in 3 (23%) and 4 (20%) cases, respectively, were the preference for paediatrics sustained through the years in medical school. The commonest observation was that most people desired to be surgeons in earlier years, and later on changed their minds to other specialties.

Table 5 gives a global view of how the reasons for specialising evolved over the years. Considering the entire cohort, reasons related to service to humanity (humanitarianism) were the commonest for wishing to study medicine (34%). Among those who had decided to specialise, however, reasons related to personal interest and self-fulfilment (48.8%) were the commonest adduced for preferring the specialty. This was expressed in various ways for the different specialties. For those preferring surgery, for instance, some of the statements made were: "it is the only one that interests me"; "I love tough, practical things"; "nothing can be more exciting"; "I found the posting interesting". In the case of psychiatry, the following sentence was typical, "I have always found the human mind intriguing". In anaesthesia, a typical statement was "I enjoyed the drama of put-

ting people to sleep and waking them up". In the case of pathology, it was "the opportunities for research, close attachment to microscope and the academic challenge".

The variation of reasons for specialty choice with years, was most marked in the case of reasons related to self-fulfilment. Among the entire cohort, the number of students preferring this reason increased from 33 before entry to the University, through 41 at preclinical, to 123 at the time of study (Table 5). The only other area where this evolution of reasons was evident was in the case of final year students indicating service to humanity as reason for wishing to specialise.

Reasons for wishing to study medicine often differed from those for preferring a specialty. For example, among the first year students who chose surgery, 14 gave self-fulfilment as reason for wanting to be doctors while 33 had the same reason for preferring surgery; also, although 19 stated humanitarian reasons for wanting to be doctors, only four gave this as reason for preferring surgery. Similarly, among the final year students who chose surgery, 15 gave self-fulfilment as reason for studying medicine while 35 had the same reason for preferring surgery; and 17 stated humanitarian reasons for wanting to be doctors, while only three gave the reason for choosing surgery. This trend was noticeable in all specialties in the two classes.

Socio-demographic factors affecting specialty choice:

An attempt was made to study the relationship between specialty choice and socio-demographic variables, such as sibling rank, size of family, occupation of father and sex. A similar trend was noted in the two classes, and Table 6 highlights the situation among the final year students who had decided to specialise. Sibling rank, size of family and occupation of father did not distinguish those wishing to specialise in any of the fields. Curiously, for first year students, all the 6 who preferred obstetrics and gynaecology were males, while among those in the final year, the corresponding figures were 34 males and 6 females. Of the 55 final year students preferring surgery, 46 were males while the corresponding figure for first year students was 36.

Discussion

Our cohort consisted predominantly of young students from large families with middle class background.

Table 5: Evolution of reasons for specialty choice

Reasons	Reasons for specialty choice										
	Reasons for med. training*			Before entering University**			At Preclinical**			At Present**	
	1st yr.	Final yr.	Total	1st yr.	Final yr.	Total	1st yr.	Final yr.	Total	1st yr.	Final yr.
1) Economic gratification	2	4	6 (2.2%)	3	4	7	4	4	8	10	11
2) Self-fulfilment	25	40	65 (23.9%)	17	16	33	22	19	41	60	63
3) Service to humanity	53	40	93 (34.3%)	7	5	12	9	22	31	9	25
4) Parental influence	16	25	41 (15.1%)	2	8	10	2	5	7	2	3
5) Academic fulfilment	10	21	31 (11.4%)	4	16	20	7	16	23	—	17
6) Moderate work load	2	1	3 (1.1%)	3	—	3	7	3	10	3	6
7) Easy understanding of subject	1	4	5 (1.8%)	1	4	5	4	5	9	6	6
8) Societal recognition	18	12	30 (11.1%)	3	3	6	3	3	6	1	2
9) Don't know why	4	3	7 (2.6%)	11	4	15	4	3	7	3	2
10) Others	—	—	—	—	4	4	—	3	—	—	1
Total											

* Includes those who have not decided to specialise

** Includes only those who have decided to specialise. Some of those deciding to specialise had not made such a decision at either entry into University or at the preclinical level; nor a definite choice at time of study.

Table 6: Preferred specialty versus socio-demographic variables (Final year students)

Specialty	Sibling Rank			Type of Home			Occupation of Father				Sex			
	1st	2nd	3rd	Mono-gamous	Polygamous	Rtd Civil Serv.	Snr. Civil Servant	Professional in Private Practice	Big Business	Middle level officer	Junior officer/Ar tisan	Don't know	M	F
Surgery (N=55)	20	10	25	32	16	7	19	3	9	1	4	19	46	9
Paediatrics (N=20)	6	7	7	13	7	2	7	1	2	—	2	6	12	8
O & G. (N=40)	12	11	15	21	15	10	17	2	2	—	3	—	34	6
Int. Med. (N=6)	1	—	5	5	1	1	3	1	1	—	—	—	4	2
Gen. Pract. (N=4)	—	2	2	2	2	1	1	1	—	—	—	1	3	1
Psychiatry (N=2)	—	—	2	—	2	—	—	—	—	—	—	2	2	—
Pathology (N=2)	1	1	—	1	1	—	2	—	—	—	—	—	1	1

Whereas 92.9% of these prospective medical graduands intend to specialise, the spread of specialty choice is rather narrow. We found that the overwhelming majority (81.7%) of the total of 252 wishing to specialise (or 70% of entire cohort) opted for the major specialties of surgery, paediatrics, O & G, internal medicine and general practice. Only very few (15 or 5.5% of cohort) opted for radiology, psychiatry, CM, anaesthesia and pathology. In the case of psychiatry, for instance, Dada [4] has estimated that in order to meet the national requirement for psychiatrists, psychiatry needs to be attracting 5-8% of medical graduands annually. This estimate is a far cry from the 5(1.8%) out of the entire cohort who preferred to specialise in psychiatry. How to redress the imbalance in specialty preference is a matter that could be addressed by medical education, taking a cue from the reasons our cohort stated for preferring specialties.

The pattern of evolution of specialty choice and changes in reasons for this choice indicates that most students do not maintain fixed positions on these issues. Only in the case of surgery did a fairly large proportion (e.g. 26 out of 50 first year and 22 out of 55 final year) who chose this maintain a stability of preference through the years. In all the other specialties, the response of the overwhelming majority showed that specialty choice could be affected by experiences encountered during training. Hence while the majority were attracted to study medicine for humanitarian reasons, specialty choice seemed mostly predicated by experiences in training that indicated the preferred field was interesting and self-fulfilling. Herein lies an opportunity for innovativeness, especially on the part of teachers in the less popular areas, in order to improve the attractiveness of these specialties to students. There was still a fairly large group (19.2% of entire cohort) who had either not decided to specialise, or had no specialty preference

as yet. It is from this group that the less popular specialties, presumably, can find additional candidates.

Making the postings in the less popular specialties much more interesting and challenging should help to sway their choice. From their stated reasons, the special qualities of each of the specialties and how interesting the postings were, were sources of attraction. Teaching in these fields should therefore include a specific focus on the unique qualities of the specialty. Also, there is no doubt that a charismatic and inspiring teacher does have a positive influence on his students. Teachers in the less popular specialties, in particular, need to be innovative, inspiring and dedicated, in order to help attract graduands to these areas of need.

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