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Beliefs and attitudes of clinical year students concerning medical specialties: an Ibadan Medical School study

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Summary

In order to understand their attitudes to 10 medical specialties, a 40-item self-report questionnaire was administered to the first and final year clinical students of the University of Ibadan.

One hundred and twenty-one first year and 150 final year students participated, constituting 81% response rates respectively, in the two classes. The findings indicate that many factors influence specialty choice, the principal ones being: expectation of material rewards; societal appreciation of specialty and specialists; response of specialty patients to treatment; and the role of specialty teachers. It seems that specialties viewed positively in these dimensions (such as surgery, paediatrics, internal medicine, and obstetrics and gynaecology) are more highly favoured than the others (such as radiology, pathology, psychiatry, anaesthesia and community medicine), which were viewed rather negatively in this regard.

Generally speaking, opinion on specialties was similar, not only between the two classes, but also between this cohort and comparable groups in developed nations.

In order to enhance the spread of specialty manpower development to meet the goal of health care for all, suggestions are made about how to improve the positive appreciation of the less favoured specialties among undergraduates.

Résumé

Pour comprendre leur pose à 10 spécialités de médecine un questionnaire personnellement reporter à 40 articles était administré à des étudiants de médecine dans leur première et dernière année à l'université d'Ibadan.

Cent vingt et un des étudiants de la première année et 150 de la dernière année ont participé, qui constituent 81% et 84% de réponses respectivement dans les deux classes.

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Les conclusions indiquent que des facteurs variés influencent le choix de spécialité, principalement l'expectation de récompense matérielle, l'appréciation des spécialités et des spécialistes dans la société, la réponse des malades sous la spécialité au traitement médical, et le rôle des enseignants d'une spécialité.

Il paraît que les spécialités positivement vues dans ces dimensions (comme la chirurgie, la pédiatrie, la médecine interne, l'obstétrique et la gynécologie) sont beaucoup plus favorisées que des autres (comme la radiologie, la pathologie, la psychiatrie, l'anaesthésie, et la médecine de communauté), qui sont vues plutôt négativement dans ce regard.

En parlant généralement, les opinions sur les spécialités sont semblables non seulement entre les deux classes mais aussi entre ce cohort et des groupes comparables à celui-ci dans des pays développés.

Pour augmenter l'étendue aux pays développés des gens spécialisés; pour affronter le but de la santé pour tous, des suggestion sont faites comment améliorer positivement l'appréciation des spécialisations moins favorisées parmi les étudiants universitaires.

Introduction

Our daily experience and the findings of studies from Nigeria [1] and abroad strongly indicate that certain specialties are far more preferred than others by medical students. Since student beliefs and attitudes are known to influence career preferences and performance levels, it is important to understand these attitudes, as well as to try to incorporate ways of modifying them into existing curricula, where this is deemed desirable [2].

The implementation of the primary health care programme (PHC) in pursuing the ideal of health for all by the year 2000 AD, has been seriously hampered by, among other factors, the urban drift of doctors and the low attraction of many important specialties among medical graduates. It is therefore important to enquire in some detail into the attitudes and beliefs of our medical undergraduates towards the specialties.

This report presents the findings of a cross-sectional total class survey of the attitudes of first and final year clinical students of the University of Ibadan in the 1987/88 academic session.

Methods

Permission was obtained from the College of Medicine authorities to administer a self-report questionnaire to clinical students nearing the end of their first and final years of postings. The questionnaires were administered, with the consent of the students, immediately after lectures, the lecturer having previously agreed to the procedure. 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 1 hr. All the items in the questionnaires having been explained, the research team remained with the students in case there were areas that needed clarification. Before the commencement of the study, the questionnaire was pre-tested on a few students who were not in the study classes.

The questionnaire

The questionnaire was in two parts, and the results of the first part have been prepared for report elsewhere. The second part of the questionnaire had 40 items which explored the attitudes and beliefs of students concerning 10 specialties. The items of the questionnaire were derived from the 50-item one which Furnham [3] used in a similar study of British medical students. The questionnaire explored beliefs about various features of each specialty, including the inherent nature of the specialty, the patients seen in that specialty, the teachers/practitioners, expectation of material rewards or appreciation, preference for, and relevance of the specialty.

Analysis of results

The students were requested to answer, 'Don't know/Agree/Disagree' to each item by marking them as 0, 1 and 2, respectively. From these responses, the summary index score (SIS) was derived for each item. The item SIS for each specialty was calculated by the difference between the number of positive and negative responders, divided by the sum of all who responded, which included the positive, the negative and the undecided. For instance, if the number of positive responders for an item for one class is a and the number of negative responders is b , while the

number of undecided is c , then, $SIS = (a - b)/(a + b + c)$. This will have a positive value. But if b is greater than a , then the SIS will have a negative value. Thus the SIS ranges from -1 through 0 to $+1$. The corresponding positive and negative signs of the SIS indicate the direction of response to the way the question of the item was phrased (i.e. whether agreement or disagreement), while the size of the score (on either side of zero) reflects the strength of the majority opinion on the issue (Tables 1 and 2).

In order to understand the view of students on various aspects of the specialties, it was possible to organize most of the 40 items into the following six areas:

- 1 nature of specialty (described by items 7, 9, 18, 20, 21, 26 and 29);
- 2 opinion on the teachers/practitioners (items 4, 5, 12- 14, 17, 19, 32, 33, 39 and 40);
- 3 opinion on the patients seen in that specialty (items 18, 24, 25, 28 and 30);
- 4 opinion on advancement and incentives in the specialty (items 1, 3, 11, 16, 27, 34 and 35);
- 5 preference for specialty by the student (items 2, 23, and 37);
- 6 perceived relevance of specialty by the student (items 15, 22 and 31).

A sizeable response for each item was judged by the authors to be one in which the SIS was at least 0.1 on either side of zero. Where the SIS was between 0 and ± 0.1 , it was decided that opinion on that item for the particular class was divided and equivocal, and could not, therefore, be used to indicate definite group opinion. For example, in the case of the final year students with 150 respondents, a score of ± 0.1 for any item would mean that, after having accounted for those who marked 'don't know' for the item, at least an excess of 15 persons constituted the majority opinion. In other words, the SIS is indicative, not only of the direction of response to the item, but also of the strength of the clear majority opinion on the issue.

In order to obtain a sufficient overview of how positively or negatively the students viewed the specialties, another index, the positive evaluation score (PES) was derived from the SIS of a smaller number of items: those where the authors judged that a definite response either way could be used to evaluate the subjects' positive or negative evaluation of the specialties in each of the six areas. The items selected for each area were:

- 1 nature of specialty — items 7, 20, 21, 26 and 29;

Table 1: Summary index score (SiS)* for responses of 150 final year clinical students to a questionnaire exploring attitudes and beliefs about 10 medical specialties

Item	SiS										O&G
	CM	Psychiatry	GP	Paed	Radiology	Surgery	Pathology+	Internal	Anaes		
1	0.45	0.28	0.10	0.78	0.69	0.7	0.64	0.55	0.38	0.8	
2	-0.62	-0.35	0.10	0.54	-0.50	0.61	-0.38	0.13	-0.61	0.56	
3	0.29	0.24	-0.52	-0.35	0.08	-0.52	0.12	-0.37	-0.08	-0.65	
4	-0.27	-0.82	-0.56	-0.98	-0.49	-0.92	0.14	-0.4	-0.44	-0.94	
5	0.62	0.48	0.41	0.62	0.49	0.36	0.54	0.59	0.44	0.61	
6	0.08	0.79	0.48	0.86	0.22	0.91	0.29	0.76	0.16	0.82	
7	-0.54	-0.52	0.48	-0.89	-0.9	-0.88	-0.88	-0.78	-0.88	-0.90	
8	-0.87	0.70	0.006	-0.01	-0.26	0.93	0.64	0.45	-0.20	0.76	
9	-0.04	-0.03	0.12	-0.88	0.56	-0.80	-0.78	-0.8	-0.53	-0.94	
10	0.82	-0.75	0.01	-0.30	-0.50	-0.93	-0.70	-0.72	0.47	-0.88	
11											
12	0.2	-0.12	-0.69	-0.89	-0.15	-0.93	-0.04	-0.33	-0.63	-0.94	
13	0.27	-0.12	-0.30	-0.86	-0.51	-0.94	-0.50	-0.18	-0.77	-0.92	
14	-0.12	0.69	0.23	0.92	-0.006	0.87	0.40	0.6	0.09	0.92	
15	0.36	0.83	0.38	0.93	0.33	0.86	0.8	0.75	0.62	0.8	
16	-0.88	-0.94	-0.92	-0.93	0.85	-0.95	-0.92	-0.92	-0.92	0.94	
17	0.22	-0.07	-0.7	-0.86	0.12	-0.9	0.21	-0.84	-0.10	-0.94	
18	-0.6	-0.25	-0.48	0.24	0.33	0.16	-0.04	0.18	-0.51	0.25	
19	-0.69	0.16	-0.35	0.42	-0.88	0.39	-0.58	-0.04	0.44	0.22	
20	0.81	0.44	-0.06	-0.65	0.55	0.9	0.5	-0.28	-0.08	-0.50	
	0.02	0.57	0.52	0.83	0.03	0.88	0.28	0.72	0.57	0.82	

21	Specialty is comprehensive	0.22	0.14	0.32	0.67	0.26	0.72	0.48	0.63	0.16	0.66
22	Is a waste of medical education	-0.84	-0.94	-0.90	-0.88	-0.92	-0.94	-0.92	-0.95	-0.88	-0.95
23	Would dissuade colleagues from entering	-0.59	-0.74	-0.8	-0.93	-0.71	-0.94	-0.73	-0.86	-0.74	-0.94
24	Results of treatment readily apparent	-0.54	-0.06	0.44	0.74	-0.26	0.92	-0.33	0.31	0.47	0.8
25	Patients make emotional demands	-0.68	0.68	0.11	0.59	-0.58	0.42	-0.7	0.26	-0.21	0.58
26	Specialty too dogmatic with little change	-0.29	-0.32	-0.32	-0.67	-0.42	-0.36	-0.28	-0.45	-0.32	-0.58
27	Specialty poorly regarded by other doctors	0.64	0.1	-0.12	-0.9	-0.27	-0.9	-0.2	-0.76	-0.08	-0.82
28	Patients hardly get better	-0.58	-0.15	-0.73	-0.98	-0.44	-0.98	-0.24	-0.55	-0.71	-0.99
29	Specialty is easiest in syllabus	-0.18	-0.36	-0.37	-0.75	-0.54	-0.79	-0.68	-0.70	-0.09	-0.28
30	Patients in specialty interesting to work with	-0.01	0.39	0.20	0.51	-0.30	0.29	-0.40	0.14	-0.20	0.35
31	Specialty is the most relevant part of curriculum	0.17	-0.06	0.25	0.52	-0.25	0.50	0.2	0.5	-0.22	0.48
32	Practitioners more stable than other doctors	0.2	0.09	0.12	0.34	0.03	0.10	0.02	0.18	0.02	0.4
33	Teacher-student relationship good and understanding	0.47	0.77	-0.36	0.66	0.18	0.48	0.46	0.74	0.34	0.74
34	Specialty more materialistic	-0.45	-0.59	0.24	-0.07	-0.34	0.18	-0.46	0.03	-0.26	0.43
35	Specialty intellectual and philosophical	0.06	0.74	0.14	0.006	-0.29	-0.08	0.2	0.46	-0.44	-0.08
36	Practitioners spend more time seeing patients not belonging to them	-0.39	-0.7	-0.36	-0.79	-0.46	-0.73	0.5	-0.64	-0.72	-0.80
37	Specialty difficult to understand	-0.71	-0.43	-0.78	-0.82	-0.55	-0.74	-0.62	-0.68	-0.83	-0.86
38	Specialty has more ethical problems	-0.23	-0.12	-0.10	-0.24	-0.61	-0.17	-0.6	-0.10	-0.45	0.12
39	Teachers often absent from clinics/lectures	-0.51	-0.94	-0.55	-0.89	-0.44	-0.86	-0.86	-0.73	-0.78	-0.67
40	Teachers' understanding of subject is adequate	0.78	0.79	-0.62	0.91	0.78	0.90	0.86	0.88	0.87	0.92

CM = community medicine; GP = general practice; paed = paediatrics; internal = internal medicine; anaes = anaesthesia; O&G = obstetrics and gynaecology.

*SIS indicates the strength of the majority opinion; the positive and negative signs indicate the direction of the majority opinion on the content of the item. * Including morbid anatomy, haematology and chemical pathology.

Table 2: Summary index score (SIS)* for responses of 121 first year clinical students to a questionnaire exploring attitudes and beliefs about 10 medical specialties

Item	SIS										O&G
	CM	Psychiatry	GP	Paed	Radiology	Surgery	Pathology+	Internal	Anaes		
1 Specialty advanced in understanding illness	0.34	0.12	0.11	0.68	0.57	0.67	0.63	0.57	0.49	0.44	
2 I would not mind specializing	-0.38	-0.45	0.08	0.31	-0.56	0.41	-0.60	0.19	-0.51	0.31	
3 Usually practitioners make less money	0.38	0.11	-0.54	-0.24	0.16	-0.28	0.14	-0.38	-0.008	-0.49	
4 Teaching is boring and irrelevant	0.19	-0.32	-0.5	-0.71	-0.38	-0.89	0.65	-0.79	-0.42	-0.61	
5 Practitioners emotionally stable	0.34	0.14	0.34	0.31	0.37	0.38	0.26	0.49	0.21	0.64	
6 Patients interesting and challenging	-0.16	0.53	0.42	0.83	0.30	0.80	0.26	0.74	0.21	0.64	
7 Specialty unscientific and imprecise	-0.18	-0.15	-0.46	-0.83	-0.71	-0.88	-0.83	-0.69	-0.80	-0.80	
8 Men tend to enter more than women	-0.74	0.49	0.25	-0.09	-0.03	0.76	0.61	0.31	-0.81	0.59	
9 Too little time is devoted during training	-0.31	0.15	-0.18	-0.52	0.65	-0.57	-0.49	-0.60	-0.30	-0.59	
10 Women tend to enter more than men	0.80	-0.56	0.12	-0.10	-0.06	-0.95	-0.74	-0.57	0.83	-0.68	
11 Specialty unrewarding as effect of treatment not immediately observed	0.23	0.008	-0.68	-0.74	-0.11	-0.86	-0.06	-0.46	-0.59	-0.71	
12 Practitioners talk a lot but do little	0.33	-0.04	-0.35	-0.73	-0.38	-0.81	-0.57	-0.13	-0.59	-0.71	
13 Specialty teaching is inspiring	-0.47	0.08	0.24	0.63	0.05	0.79	0.28	0.56	0.37	0.48	
14 Teachers are dedicated	0.28	0.43	0.38	0.72	0.35	0.92	0.18	0.69	0.74	0.42	
15 Specialty not relevant in Nigeria today	-0.78	-0.71	-0.85	-0.8	0.74	-0.90	-0.78	-0.84	-0.81	0.88	
16 Practitioners poorly regarded by society	0.52	-0.20	-0.74	-0.78	0.5	-0.88	0.28	-0.78	0.08	-0.83	
17 The most intelligent doctors enter specialty	0.64	-0.23	-0.51	0.09	-0.33	0.40	-0.20	0.13	-0.56	0.20	
18 Specialty emotionally demanding and time consuming	0.60	0.23	-0.33	0.44	-0.68	0.56	-0.32	0.16	0.10	0.09	
19 Practitioners have more time for leisure	0.69	0.32	0.06	-0.55	0.57	-0.84	0.21	-0.17	-0.07	-0.37	
20 Specialty demands dedication to duty	-0.28	0.30	0.42	0.82	-0.19	0.94	0.30	0.70	0.63	0.62	

21	Specialty is comprehensive	0.06	0.001	0.21	0.47	0.13	0.58	0.45	0.47	0.26	0.42
22	Is a waste of medical education	-0.66	-0.76	-0.74	-0.89	-0.84	-0.89	-0.86	-0.89	-0.85	-0.88
23	Would dissuade colleagues from entering	-0.25	-0.32	-0.63	-0.73	-0.34	-0.75	-0.42	-0.69	-0.55	-0.68
24	Results of treatment readily apparent	-0.5	-0.42	0.38	0.51	-0.06	0.83	-0.15	0.11	0.52	0.53
25	Patients make emotional demands	-0.46	-0.41	0.22	0.41	-0.5	0.48	-0.51	0.36	0.20	0.44
26	Specialty too dogmatic with little change	-0.14	-0.11	-0.24	-0.42	-0.17	-0.29	-0.21	-0.36	-0.32	-0.39
27	Specialty poorly regarded by other doctors	0.63	0.05	-0.18	-0.77	-0.16	-0.76	-0.72	-0.72	-0.08	-0.82
28	Patients hardly get better	0.28	0.04	-0.70	0.74	-0.35	-0.86	-0.41	-0.41	-0.69	-0.94
29	Specialty is easiest in syllabus	0.04	-0.20	-0.19	-0.60	-0.06	-0.66	-0.67	-0.56	-0.08	-0.31
30	Patients in specialty interesting to work with	-0.14	0.008	0.28	0.28	-0.10	0.32	-0.23	0.08	0.16	0.32
31	Specialty is the most relevant part of curriculum	-0.09	-0.24	0.18	0.41	-0.15	0.44	0.30	0.47	-0.08	0.24
32	Practitioners more stable than other doctors	0.08	-0.11	0.24	0.22	0.004	0.18	0.06	0.24	0.02	0.24
33	Teacher-student relationship good and understanding	0.33	0.29	0.41	0.50	0.10	0.43	0.42	0.51	0.74	0.34
34	Specialty more materialistic	-0.35	-0.42	0.40	0.06	-0.18	0.20	-0.37	0.03	-0.17	0.41
35	Specialty intellectual and philosophical	0.17	0.61	0.09	0.19	-0.13	-0.14	0.09	0.40	-0.08	-0.09
36	Practitioners spend more time seeing patients not belonging to them	-0.38	-0.53	-0.39	-0.69	-0.35	-0.71	-0.37	-0.57	-0.74	-0.66
37	Specialty difficult to understand	-0.58	-0.14	-0.57	-0.42	-0.54	-0.45	-0.19	-0.42	-0.61	-0.47
38	Specialty has more ethical problems	-0.14	-0.09	0.15	0.07	-0.53	0.24	-0.41	0.23	-0.04	0.33
39	Teachers often absent from clinics/lectures	-0.16	-0.39	-0.41	-0.50	-0.27	-0.85	-0.73	-0.65	-0.74	-0.40
40	Teachers' understanding of subject is adequate	0.51	0.39	-0.40	0.64	0.47	0.82	0.69	0.58	0.68	0.55

CM = community medicine; GP = general practice; paed = paediatrics; internal = internal medicine; anaes = anaesthesia; O&G = obstetrics and gynaecology.

*SIS indicates the strength of the majority opinion; the positive and negative signs indicate the direction of the majority opinion on the content of the item. † Including morbid anatomy, haematology and chemical pathology.

Table 3: Positive evaluation score (PES) derived from the summary index score of the responses of 150 final year students to a questionnaire exploring attitudes and belief about 10 medical specialities

area	Maximum score	PES									
		Radiology	Surgery	CM	Psychiatry	Pathology	Internal medicine	General practice	Anaesthesia	Paediatrics	O&G
Nature of subject	5	4	5	4	5	5	5	5	4	5	5
Opinion on teachers	10	7	9	7	7	6	8	8	6	9	8
Opinion on patients	5	3	5	3	4	3	5	5	4	5	5
Advancement, material intellectual appreciation	5	3	3	1	2	2	5	5	3	5	5
Preference for specialty	3	2	5	2	2	2	3	3	2	3	3
Relevance of specialty	3	2	3	3	3	3	3	3	2	3	3
Total		21	30	20	23	21	29	29	21	30	29

CM = community medicine; O&G = obstetrics and gynaecology.

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- 2 opinion on teachers — items 4, 5, 12–14, 17, 32, 33, 39 and 40;
- 3 opinion on the patients — items 6, 24, 28, 30 and 36;
- 4 opinion on advancement and inducements — items 1, 3, 11, 16 and 27;
- 5 preference for specialty — items 2, 23 and 27;
- 6 relevance of specialty — items 22, 15 and 31.

The total PES for each specialty was computed by adding the PES obtained from each of the six areas. Only those items in which the group scored at least 0.1 on either side of zero were counted in arriving at the PES. Used as an index of comparison, the PES indicates clearly how positively each specialty is viewed in relation to the others.

Results

One hundred and twenty-one first year clinical and 150 final year medical students, consisting of all the students attending particular lectures on the days of study, completed the questionnaires. Percentage responses in the first and final year classes were 81% and 89.3% respectively. The male : female distribution of the first years was 2.8:1, while that for the final years was 3.1:1. Other aspects of the demographic characteristics of these students are being presented in a companion article.

An interesting finding is that, in almost all the items for the popular specialties (of medicine, surgery, paediatrics, general practice and obstetrics and gynaecology), the direction of response for the two classes was similar. This unanimity of opinion was also maintained by the two classes, with a few exceptions, for the less popular specialties of radiology and anaesthesia, and minor differences were shown only in specialties such as psychiatry and anaesthesia, to which the first year students had not yet had exposure. As such unanimity of response was seen, only the SIS for the final years was subjected to further analysis to obtain the PES (Table 3).

Consensual opinion

What seemed to be a consensus of opinion emerged, affecting all the specialties in the six areas of enquiry.

The majority of students in the two classes observed that all the specialties were fairly scientific and precise, comprehensive, non-dogmatic and not particularly easy to understand. The most scientific were judged to be radiology (0.9), obstetrics and gynaecology (0.9), paediatrics (0.89), surgery (0.88), pathology (0.88), anaesthesia (0.88) and internal me-

dicine (0.78). The least scores in this regard were for general practice (0.48), psychiatry (0.52) and community medicine (0.54).

As they are being taught, the specialties were not generally felt to be boring or irrelevant, and the teachers were judged fairly emotionally stable. Surgery (0.92), paediatrics (0.98), obstetrics and gynaecology (0.94) and psychiatry (0.82) received the highest rating for not being boring. General practice, internal medicine and anaesthesia occupied the middle position, while radiology (0.49), pathology (0.14) and community medicine (0.27) scored rather low in this regard. The teachers were thought to be dedicated, to attend clinics and lectures fairly regularly, to have an adequate understanding of their subjects and to maintain good and understanding relationship with their students. The most dedicated teachers were in paediatrics (0.93), surgery (0.86), psychiatry (0.83), pathology (0.8), obstetrics and gynaecology (0.8) and internal medicine (0.75); anaesthesia (0.62) occupied the middle position, while radiology (0.33), community medicine (0.36) and general practice (0.38) were ranked the lowest.

Although results of treatment are not so readily apparent in some of the specialties (e.g. radiology, community medicine and psychiatry), students felt that patients generally do get better, and the specialists do not waste time seeing patients that do not belong to them. All the specialties have advanced considerably in recent years in their understanding of illness.

While radiology, community medicine, psychiatry, pathology and anaesthesia were not popular as fields of career choice, none was considered to be particularly difficult to understand, and the students would generally not dissuade their colleagues from choosing to specialize in any of the fields. All of the specialties were felt to be useful in the Nigeria of today and none to be a waste of medical education, although radiology, community medicine, psychiatry, pathology and anaesthesia were not regarded as being the most relevant in the curriculum.

Radiology

This specialty was judged to make little or no emotional demands; opinion was split on whether or not it demands dedication (0.03). There was much doubt about how inspiring the teaching is (0.006), and there was a feeling that the specialty does not attract the most intelligent doctors, the results of intervention are hardly apparent (-1.26) and the practitioners do not make much money. Although practitioners are seen to be poorly regarded by society (0.12), the final

year students believed that other doctors held them in some high esteem (-0.27). The time devoted to radiology in training was considered most inadequate (0.56).

Surgery

Surgery received high approval ratings on most of the parameters. Opinion was that it is emotionally and time demanding (0.39) and of all the specialties it demands the highest level of dedication (0.88). Treatment methods are seen to be most effective as the patients readily get better (0.98). The specialty is thought to be fairly materialistic (0.16) and, although it attracts intelligent doctors, it not thought to be strong in philosophical orientation (0.08); the practitioners make much money and are highly appreciated by other doctors (0.9) and the general population (0.9). It was regarded as one of the most relevant in the medical curriculum (0.50) and the time devoted to it in the syllabus was considered highly adequate (-0.80).

Community medicine

This specialty was thought to be hardly demanding of emotional involvement (-0.69) or dedication to duty (0.02), and opinion was split between the two classes about its comprehensiveness. The teachers are viewed as emotionally stable (0.62) but generally impractical (0.27) and the teaching is not felt to be inspiring (-0.12). Responses showed that the specialty was not felt to attract the most intelligent doctors, patients' problems were not so interesting and challenging and the results of treatment were not readily apparent. This specialty is seen as materially unrewarding and the practitioners are thought to be poorly regarded by fellow doctors and the general society. The final year students doubted that adequate time was devoted to it in training (-0.04), although the first years felt this was adequate (-0.31).

Psychiatry

Not surprisingly, psychiatry is seen as the specialty in which patients make the highest emotional demand (0.68). Students' opinions were that it calls for dedication to duty and the teachers are fairly practical minded and their style of teaching is inspiring (0.69), although the first year students felt that psychiatrists are less emotionally stable than other doctors. It is seen as one of the least materialistic (-0.59) and one of the most intellectual/philosophical (0.74) of the specialties, and opinion was split on how respected the practitioners are by the general population and

among other doctors. The final year students doubted the adequacy of the time allotted to it in training (-0.03).

Pathology

Although demanding of a fair degree of dedication (0.28), the work was perceived as requiring little or no emotional attachment. The teachers were seen to have a practical orientation (-0.50) and to be fairly inspiring (0.40), but there was doubt about the emotional stability of the practitioners compared with other doctors. While there was also doubt about how materially fulfilling the specialty is, both fellow doctors and the general population were thought to hold the practitioners in high regard (0.21). The time allotted it in the syllabus was considered adequate (-0.78).

Internal medicine

Although this specialty was thought to require a high level of dedication (0.72), there was doubt about its demands on the doctor's emotions and time (0.04). The teaching was thought to be inspiring (0.6), the specialty was seen as one of those that attracts the most intelligent doctors and the practitioners were viewed as relatively stable emotionally; however, the teachers were seen as rather lacking in practical orientation (0.18).

On average, practitioners are perceived to make some money (-0.37), are thought to be highly regarded by colleagues and the general society (-0.84) and the specialty is thought to be rewarding in terms of effectiveness of treatment (-0.33). It is not considered to be one of the most materialistic specialties and is felt to have a fair degree of potential for the intellectual and philosophical outlook (0.46).

As a field of specialization the preference for it rates rather low (0.13) compared with other popular specialties such as surgery (0.61). The time allotted to it in training is considered to be highly adequate (-0.8).

General practice

Opinion on this specialty was that it demanded dedication to duty (0.52) without much involvement of the emotional accompaniments. The teachers are seen as practical (-0.30) and fairly inspiring (0.23), but the specialty was not thought to attract the most intelligent doctors and it was rated low on the intellectual/philosophical side (0.10). There was seen to be appreciable reward as the practitioners are among those who are thought to make money (-0.52), treat-

ment is effective and the practitioners are considered to be highly appreciated by other doctors and the general society (-0.7). This field has the lowest rating for career choice among the popular specialties (0.1). The time allotted it in training was judged to be somewhat inadequate (0.12).

Anaesthesia

The opinion of the students was that, although demanding a high level of dedication (0.57), this specialty was not emotionally involving. The teachers were seen as highly practical in their approach (-0.77) but the final year students were in doubt as to whether the style of teaching was inspiring (0.09) or that the teachers were more stable than those of other specialties. It is not thought to be one of the specialties that attract the most intelligent doctors and the challenge posed by the patients was not thought to be as exciting as those in other specialties. Students felt that the financial rewards were doubtful, but that the practitioners were appreciated to some degree by the general society (-0.10), if not by their fellow doctors. Adequate time was thought to have been allotted it in training (-0.53).

Paediatrics

This was among the most positively evaluated specialties. Not only was it thought to require the highest level of dedication (with surgery), but it was also seen to make great demands on the doctor's emotions and time (0.42). Students felt that the teachers were among the most practically oriented (-0.86) and the teaching was most inspiring but, while the majority of the final year students agreed that this specialty attracts the most intelligent doctors, those in the first year were in doubt about this. Also, the practitioners were judged to be some of the most emotionally stable compared with other specialties. The specialty was perceived as having good potentials for material gains and students thought the effect of treatment was immediately evident (-0.8) and the practitioners were highly regarded by other doctors and the general population (-0.86). Nevertheless, it was judged to be neither materialistic (-0.07) nor remarkably intellectual or philosophical in orientation (-0.01). The time allotted it in the syllabus was judged to be highly adequate (-0.88).

Obstetrics and gynaecology

This was another of the highly favoured specialties: it was rated as highly on most parameters as surgery and paediatrics, except that the final year students did

not agree that it attracted the most intelligent doctors. It was judged to be the most financially rewarding (-0.65) and materialistic (0.43). The time allotted it in training was thought to be most adequate (-0.94).

PES

The PES, as a simple score, gives an overview of how positively each specialty is appreciated in relationship with the others (Table 3). Using this score, we can classify the specialties into two groups:

- 1 the popular specialties with PES ≥ 29 (surgery, internal medicine, general practice, paediatrics and obstetrics and gynaecology) and;
- 2 the less preferred specialties with PES ≤ 22 (radiology, community medicine, psychiatry, pathology and anaesthesia).

The SIS showed that the popular specialties were principally distinguished from the less preferred ones in the following ways: while all specialties were thought to be of relevance in Nigeria, only these ones were thought to be the most relevant in the syllabus; they were thought to be highly associated with financial rewards and appreciation by colleagues and general society; and in these specialties the effect of treatment on the patients is immediately observed. The time allotted for teaching these specialties was thought to be adequate.

Of the less popular specialties, on the other hand, none was thought to be among the most relevant in the curriculum. Also, the adequacy of the time allotted for teaching these specialties was in great doubt. At the time this study was undertaken, the time allotted these specialties in training varied from 24 weeks in paediatrics and obstetrics and gynaecology to 28 weeks in surgery and internal medicine. Community medicine involved a 5-year programme, and the time spent in the smaller specialties varied from 2 to 4 weeks during the 3 clinical years. Curiously, community medicine was the only one of the less popular specialties in which the students were firmly of the opinion that the teachers were not only impractical, but also the teaching was uninspiring.

Discussion

In a number of ways, the opinion of our students was similar to those of their counterparts in Euro-American cultures [3-5]. Hence, surgery, internal medicine, paediatrics, obstetrics and gynaecology and general practice were far more popular specialties of choice than radiology, community medicine, psychiatry, pathology and anaesthesia. Also, the popular specialties were much more positively evaluated along all the

dimensions of enquiry. However, our students were far more benevolent in their views on the less popular specialties compared with their colleagues in the industrialized world. For instance, there was a consensual opinion by the majority of students in the two classes that the less popular specialties shared many positive attributes with the more popular ones, namely: they were generally considered to be scientific and precise, comprehensive and non-dogmatic. Also, the teachers were generally dedicated, the teaching style was not boring and irrelevant and an atmosphere of good and understanding relationship with students prevailed. Although these specialties were not popular fields of choice, the students would not dissuade their colleagues who had interest in such fields.

Curiously, psychiatry, which in previous studies received very low rating of positive evaluation, scored highest in PES among the less popular specialties and, on a few dimensions, it even had a better appreciation than some of the high status specialties. For instance, (Table 1) psychiatry's rating of not being boring (0.82) is comparable with those of surgery, paediatrics and obstetrics and gynaecology, and higher than those of the remaining specialties. Psychiatry teachers' ratings of being dedicated (0.83), intellectual/philosophical (0.74) and inspiring (0.69) were in the first rank of the scores for all the specialties.

On the whole, the responses of the students were in accordance with what is popularly believed about these specialties. For instance, the two classes agreed the gynaecologists make more money than others and psychiatric patients demand the greatest emotional attention.

It would appear that the high positive evaluation of the more popular specialties centred on their potentials for producing quick clinical results, financial rewards and appreciation by colleague doctors and the society in general. These points largely agree with the findings of Asuzu [1] in a previous study of career preferences of Ibadan medical students. With the apparently inherent incapacity of most low status specialties to produce such quick and lasting clinical results or to attract financial rewards, the findings of this study would suggest that there should be other ways of popularizing these specialties. These may include special economic incentives (not evaluated in this study) and improvement in the style of presentation and teaching in these fields.

Another important point is that, while adequate time was thought to have been allotted to all the popular specialties in training, there was much doubt about the adequacy of duration of posting for the less popular specialties. In allotting an amount of time which is perceived to be inadequate for these specialties, medical planners seem to have given the students the basis for the idea that the less popular specialties were not among the most relevant in the curriculum. This situation needs to be addressed by administrative adjustments in the curriculum. Since the students agreed that the postings in the popular specialties were lengthy enough, perhaps the possibility of increasing the duration of posting in the less popular specialties could be considered. It is also reasonable to assume that a significant increase in number of questions on the less popular specialties in the relevant major examinations would help to make the students appreciate their value.

It is clear that many other factors contribute to choice of specialties among medical graduates, including personality characteristics [6] and the subtle interactions between preferences and actual choices [7]. In order to attract prospective candidates to the less popular specialties, we need to study these factors periodically and in a systematic manner, with a view to putting them into consideration in teaching and in revising curricula.

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