ORIGINAL ARTICLE

Perception of Final -Year Medical Students about Choice of Anaesthesia as a Specialty

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Abstract

Background: *In Nigeria there has been a gradual but definite increase in the number of trained Anaesthetists. This increase however does not seem to be commensurate with the increasing numbers of other surgical specialists and specialties and the increasing population of the country. We set out to study the factors affecting the choice of Anaesthesia as a specialty and the perceived hindrances if any, to the study of Anaesthesia at postgraduate level.*

Methodology: *A questionnaire-based study was conducted among Final-year Medical Students of the Ahmadu Bello University, Zaria. The data was analyzed using the SPSS Package.*

Results: *Ninety (90) students out of One Hundred (100) randomly selected students responded to the questionnaire in a class of Three Hundred and Forty-two (342). Of the 90, only eighty-eight (88) were available for analysis. Seven (7) students (8%), did not want to specialize at all after graduation, while eighty-one (81) (92%), were willing to specialize, of which, 16 students (18.2%), indicated willingness to specialize in Anaesthesia. The presence of Nurse Anaesthetists, and non-lucrativeness were some of the perceived hindrances.*

Conclusion: *It behoves all stakeholders who depend on the practice of Anaesthesia, to improve the profile and change the misconceptions about Anaesthesia. More emphasis should be placed on the training of doctors in anaesthesia rather than nurses while we develop the various sub-specialties in Anaesthesia.*

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Introduction

The ratio of Anaesthetist to general population has been put at 1:295,000 (1995)[1] in Nigeria. The situation may still be the same, though there may be more recent statistics. Career choice of newly qualified doctors also contributes to the inadequate manpower in anaesthesia. This is because anaesthesia is seen as being less glamorous than other medical specialties like Internal medicine, Obstetrics and Gynaecology or Surgery[2] Anaesthesia is one of the largest single hospital specialties but is probably the least well understood. The general public has little idea of the role of anaesthetists, and, sadly, the medical profession as a whole often mirrors this lack of knowledge.[3] Since the early 1970s the range of activities covered by the specialty of anaesthesia has expanded considerably.[4] The role of the anaesthetist has broadened to include not only theatre work, but also the care of patients in areas such as intensive care and high dependency units, accident and emergency units, in the obstetric suite, radiology and palliative care teams as well as acute and chronic pain management. The volume of work has also increased as new operations have been introduced and as procedures, which were once rare have become more common. Consequently, it is estimated that, in the UK, anaesthetists are involved in the care of about two-thirds of all patients admitted to hospital[5].

Although anaesthesia and intensive care medicine are postgraduate subjects, few would deny the value of exposing medical undergraduates to clinical training in these areas. This paper addresses the knowledge, attitude and perceptions of final year Medical students about making a career in anaesthesia as a postgraduate specialty. It shows that there are specific benefits that can be provided for medical students, at all stages of training, from positive mentoring by anaesthesiologists working in operating theatres, intensive care units and pain clinics.

Methods

A questionnaire-based study was conducted among Final-year Medical Students of the Ahmadu Bello University, Zaria. The questionnaire was structured and administered by the author. The data was analyzed using the SPSS Package Version 11.0.

Results

Ninety (90) students out of One Hundred (100) randomly selected students responded to the questionnaire in a class of Three Hundred and Forty-

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two (342). This gave a response rate of 90%. Of the 90, only eighty-eight (88) were available for analysis because 2 of the questionnaires were not properly filled.

The age range of the respondents was 26 - 35 years, with a mean age of 28 years. The sex ratio 4 males: 1 female.(Tables I and II) 5.7% of the respondents were married, and 86.4% were single, although 8% did not indicate their marital status.(Table III)

Majority of the respondents (68.2%) believe that anaesthetists play a vital role in patient management, while 38.6% are aware that anaesthetists work in various parts of the hospital. (Table V and Fig 1)

Seven (7) students (8%), did not want to specialize at all after graduation, while eighty-one (81) (92%), were willing to specialize, of which, 16 students (18.2%), indicated willingness to specialize in Anaesthesia. .(Tables IV, VI and fig 2)

37.5% of those who wish to specialize in anaesthesia said they liked the practice of anaesthesia, 31.3% felt that anaesthesia was interesting, while 25% felt that it took a shorter time to train to become an anaesthetist. (Table VII and fig 3)

Majority of the respondents (47.7%) said that their reason for lack of interest in Anaesthesia was because Anaesthetists work behind the scene. 38.6% felt that the presence of nurse anaesthetists was a reason for their lack of interest in anaesthesia. Other reasons for lack of interest include: perceived lack of jobs in Nigeria (30.7%), No financial inducement (21.6%), and short duration of exposure in Medical school (18.2%). (table VIII and fig 4)

There was no significant difference in the percentages of those who were willing to specialize when compared with their ages i.e. 92.1% of those below 30 years and 92.% of those above 30 years were willing to specialize after graduation5.7% of the respondents were married, and 86.4% were single, although 8% did not indicate their marital status. Only 8% of the respondents indicated lack of willingness to specialize after graduation.

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Fisher's Exact Test=0.64

Table I: Showing age distribution

Age group	Frequency	Percentage (%)
25 -29	63	71.6
30 -34	24	27.3
35 -39	1	1.1
Total	**88**	**100.0**

Mean age 28.6±1.8 Min 26 Max 35.

Table II : Distribution by gende

Gender	Frequency	Percentage (%)
Male	71	80.7
Female	17	19.3
Total	**88**	**100.0**

Sex ratio 4:1

Table III: Marital status

Marital Status	Frequency	Percentage (%)
Married	76	86.4
Single	5	5.7
Not Indicated	7	8.0
Total	**88**	**100.0**

Table IV: Showing distribution according to willingness to specialize after graduation

Willingness to specialize	Frequency	Percentage (%)
Valid Yes	81	92.0
No	7	8.0
Total	**88**	**100.0**

Table V : Distribution according to knowledge about the role of anaesthetist

Knowledge	Frequency	Percentage (%)
Pt mgt at surgery only	21	23.9
Work in various parts of the hospital	34	38.6
Play vital role in pt mgt	60	68.2
Not needed because of Anaesthetic Nurses	11	12.5
Role of Anaesthetist not appreciated	8	9.1
Others	3	3.4
TOTAL	**88**	**100.0**

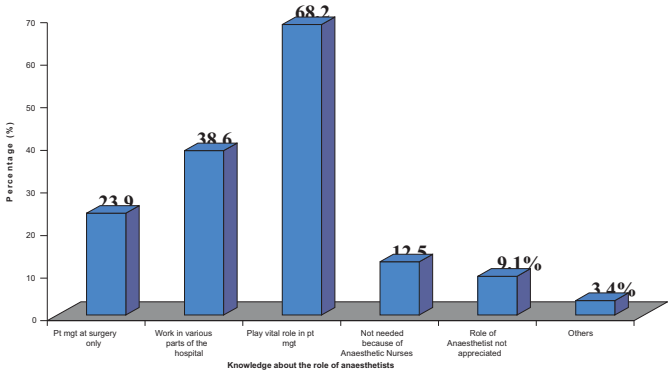

Fig. 1: Showing distribution according to knowledge about the role of anaesthetists

Table VI: Distribution according to willingness to specialize in anaesthesia

	Frequency	Percentage (%)
Yes	16	18.2
No	69	78.4
Not Indicated	3	3.4
Total	**88**	**100.0**

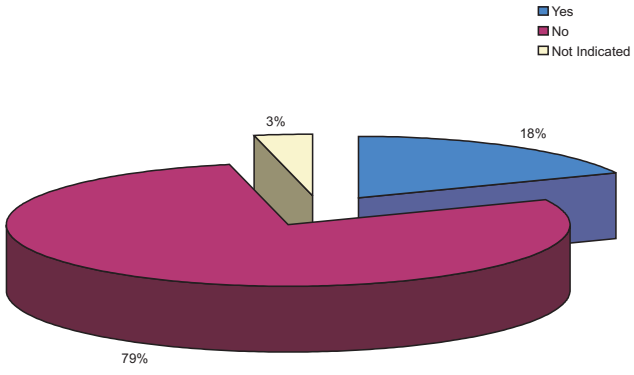

Fig. 2: Showing distribution according to willingness to specialize in anaesthesia

Reason for choice	Frequency	Percentage (%)
I like the practice	6	37.5
It takes a shorter time for training	4	25.0
It is interesting	5	31.3
Others	1	6.3
Total	**16**	**100.0**

Table VII: Distribution according to reason for choice of anaesthesia

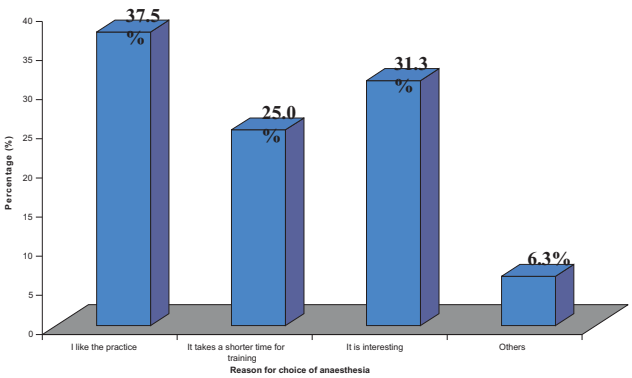

Fig. 3: Showing distribution according to reason for choice of anaesthesia

Table VIII: Distribution by reasons for lack of interest in anaesthesia

Lack of interest	Frequency	Percentage (%)
Short duration of exposure in Medical School	16	18.2
Presence of Anaesthetic Nurses	34	38.6
They work behind the Scene	42	47.7
No financial Inducement	19	21.6
Lack of Jobs In Nigeria	27	30.7
Others	12	13.6

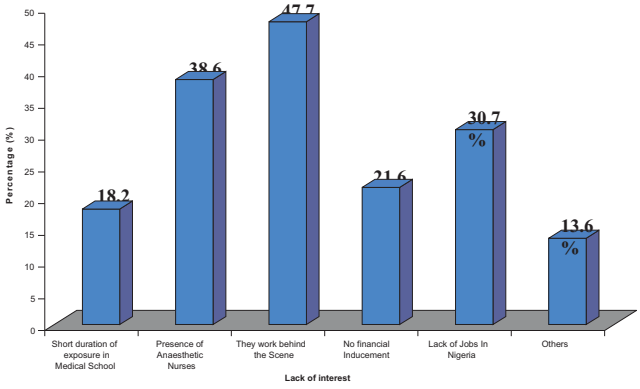

Fig. 4: Showing distribution by reasons for lack of interest in anaesthesia

Table IX: Gender Vs Willingness to specialize

Gender	Willingness to specialize				Total
	Yes	%	No	%	
Male	65	91.5	6	8.5	71
Female	16	94.1	1	5.9	17
Total	**81**	**92.0**	**7**	**8.0**	**88**

Fisher's Exact Test=0.59

Table X: Age Vs willingness to specialize in anaesthesia

Age	Willingness to specialize in anaesthesia				Total
	Yes	%	No	%	
<30	58	92.1	5	7.9	53
30+	23	92.0	2	8.0	25
Total	**81**	**92.0**	**7**	**8.0**	**88**

Discussion

The medical specialties chosen by medical students for their careers play an important part in the development of health care services[6] In Nigeria, as in other developing countries, some clinical specialties are more attractive to doctors than others[7].

In Australia, about one in two medical graduates now entering the workforce are women[8,9]. Unlike what we see here in Nigeria, where there are relatively fewer female medical graduates. The sex ratio among our respondents was 4:1. Furthermore, current graduates tend to be older than previous graduates, which may also influence choice of specialty[10,11,12]. In our study the age range of the respondents was 26 - 35 years, with a mean age of 28 years. However there was no significant difference in the percentages of those who were willing to specialize when compared with their ages i.e. 92.1% of those below 30 years and 92% of those above 30 years were willing to specialize after graduation.

The percentage of newly qualified doctors, from UK medical schools, who specified that they wanted a long-term career in anaesthesia, has increased substantially over time. For example, it increased from 4.6% of the 1974 cohort to 11.5% of the cohort of doctors who graduated in 2002[4]. In our study, a surprisingly high percentage (18.2%) indicated willingness to specialize in anaesthesia. This is not similar to the findings by Falade et al[12] in which only 1.3% indicated interest to specialize in Anaesthesia. In part, this increase may be attributable to the fact that, from the early 1980s onwards, anaesthesia, resuscitation, and intensive therapy were increasingly included in the undergraduate curriculum, with attachments lasting from 2 to 4 weeks in most medical schools, rather than being treated mainly as postgraduate subjects.[13,14] It also seems likely that the broadening nature of anaesthesia has increased its appeal to more recent graduates. Junior doctors may also be increasingly aware of the fact that anaesthesia is one of the largest specialties in the clinical workforce and that opportunities in it are considerable.

In this study, majority of the respondents (47.7%) said that their reason for lack of interest in Anaesthesia was because Anaesthetists work behind the scene. 38.6% felt that the presence of nurse anaesthetists was a reason for their lack of interest in anaesthesia. Other reasons for lack of interest include: perceived lack of jobs in Nigeria (30.7%), No financial inducement (21.6%), and short duration of exposure in Medical school (18.2%).

The 'behind the scene' culture of work/perception may be a misrepresentation of their roles by the anaesthetists themselves and a misconception by others. Most anaesthetists tend to be modest in their approach and presentation while working with surgeons and other colleagues but this must not be mistaken for subservience. According to Eyelade in a Faculty Lecture,[15] "Anaesthetists by way of their medical practice are away from public view, unknown and unsung by the numerous patients they watch over while they (the patients) sleep; and often forgotten by their fellow colleagues when it comes to recognition or sharing accolades and chocolates for a successfully carried out surgical operation".

The presence of nurse anaesthetists as a major turn-off factor to potential trainees has not been described in earlier studies. This may be because many Teaching Hospitals in Nigeria do not have this cadre of staff and where they exist, their roles and responsibilities are well defined and may not interfere with the work of physician anaesthetists.

In another study in the UK, other things that influence the choice of specialty include: the anticipated hours and working conditions, career and promotion prospects, and advice from others[16]. It is possible that our students are not adequately informed about the career and promotion prospects as well as the remunerations of anaesthetists hence the fallacious perceptions about lack of jobs and financial inducement in Nigeria.

The short duration of exposure in medical school may be due to the fact that Clinical Postings/Rotations in Anaesthesia in most medical schools in Nigeria range from between 2 to 4 weeks. This time is too short to give undergraduates adequate exposure to the real practice of Anaesthesia

With respect to hours and working conditions, compared with some other hospital specialties, anaesthesia has been perceived for years as a relatively 'family friendly' hospital specialty with a history of well organized rota systems[16]. An increase in early opportunities to work in anaesthesia may have a beneficial effect on recruitment to the specialty. Also, specialty preferences before entry to medical school are not a major determinant, generally, of doctors' eventual choice of specialty.

Strengths and weaknesses of the study

The strengths of our study include an acceptable response rate, with 90% of the target group responding, The study's weaknesses include that the reasons for non-response are not known, plus problems known to be associated with the use of structured questionnaires[17]. The validity of the questionnaire was not tested using focus groups, and it was not pilot tested to inform and test its contents and design.

Strengths and weaknesses of the study in relation to other studies

The findings of our study are strengthened by the fact that they are similar to those of Davidson et al who reported that career choices of UK medical graduates were influenced by appraisal of their own skills and aptitudes and enthusiasm for the specialty[18]. Although this study did not elicit that, these researchers noted that women doctors were more influenced by domestic circumstances and hours of work and working conditions than were male doctors.

Unanswered questions and future research

Unanswered questions include what other factors are influential in choice of specialty (e.g., training program information and recruitment processes), what factors lead doctors to change specialty, and why does the age and medical school profile of trainees vary across training programs? These are areas for future research, together with evaluations of the effectiveness of interventions to influence doctors in their choice of specialty.

Recommendations:

It is recommended that more emphasis should be placed on the training of doctors in anaesthesia considering the shortage of anaesthetists in the country. It is also hoped that the various subspecialties in anaesthesia will develop in commensurate manner to other surgical specialties. Experience with discipline-based work cultures and working conditions show that positive influences occur throughout medical school and the early postgraduate years, and the majority of doctors choose their specialty during these years. It follows that any interventions to influence doctors' choice of specialty need to target these critical years. These modifications may be done through curriculum adjustments at various levels such as the Medical and Dental Council of Nigeria' working with the National Universities Commission (NUC) and the different Medical Schools.

For many female medical graduates, decisions about choice of specialty are tempered by their domestic circumstances. There should be a review of the work culture typical of the specialty, the opportunity for trainees to work flexible hours, the quality of supervision/mentoring provided to trainees, and trainee satisfaction with the hours they are required to work.

The career prospects of anaesthesia and anaesthetists should be properly presented with a view to expose all the various roles and responsibilities of this group of specialists.

Conclusions

For the first time, in Ahmadu Bello University Teaching Hospital, Zaria, we have information about factors influencing doctors' choice of specialty that are amenable to change. Of greatest significance are, the idea that anaesthetists work behind the scene, the presence of nurse anaesthetists, the perception that there is lack of financial inducements, and the ignorance about the career prospects in Nigeria.

Modifications done through curriculum adjustments at various levels such as the Medical and Dental Council of Nigeria' working with the National Universities Commission (NUC) and the different Medical Schools and Teaching Hospitals should have interventions targeted at the Undergraduate clinical years and the period of houseman-ship.

It is often forgotten that none of the high profile advances in surgical practice could have taken place without efficient and effective methods of anaesthesia and intensive care medicine.

Anaesthesia is a rewarding and challenging specialty. It combines manual dexterity with intellectual stimulation and is truly one of the few specialties where decisions made in critical situations can mean the difference between "life and death." There is much truth in the old adage that "every good surgeon deserves a good anaesthetist, while every bad surgeon needs one."

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