

Original Article

SUBSPECIALISATION IN ANAESTHESIA AMONGST ANAESTHESIOLOGY RESIDENTS IN PORT HARCOURT, NIGERIA

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Abstract

Background: There are few anaesthesiologists in Nigeria and fewer anaesthesia subspecialists to serve the general population. Some Nigerian hospitals employ anesthesiology residents who have not yet attempted or passed the required entry primary examination of any of the Postgraduate Medical Colleges. Recently, sub-specialization in anaesthesia is done overseas hence the financial burden for the Nigerian anaesthesiologists.

Materials and Methods: This was a cross-sectional survey of the choice of anaesthesia subspecialty among anesthesiology residents in Port Harcourt, Rivers State. A semi-structured 19-item questionnaire divided into four sections was used for the survey.

Results: Thirty-six anaesthesiology trainees in various levels of training participated in the study. 69.4% were between 30 -39 years old. 16.7% practiced anaesthesia before commencing residency. While 83.3% did not. 5.6% did not study anaesthesia in medical school. All the respondents will like to sub-specialize in anaesthesia. 13.16% have written the primary examination in another department of a postgraduate medical college besides anaesthesia. 2.63% chose anaesthesia because they did not pass the primary examination of their dream specialty while 5.26% did not get a place for residency in their dream specialty. Regarding the choice of anaesthesia subspecialty, Critical care was chosen by 58.3%, pain medicine and regional anaesthesia 8.3%, obstetric anaesthesia 11.1%, paediatric anaesthesia 5.6%, cardiothoracic anaesthesia 8.3% and ambulatory anaesthesia 5.6%. 47.2% of respondents will prefer a sub-specialty with training available in Nigeria.

Conclusion: There is a need for sub-specialization in anaesthesia in Nigeria as from the results of the study most residents will want to subspecialise in the specialty but the training is not available in the country. Anaesthesia subspecialists should work with the relevant authorities to establish training centres in Nigeria.

Keywords: Anaesthesiologist, Anaesthesiology Residents, Subspecialisation, Training.

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INTRODUCTION

Choosing a specialists career in medicine is vital for the adequate supply of health professionals in the specialty especially medical doctors.¹ There is a critical lack of manpower of skilled healthcare workers in developing countries within the sub-Saharan Africa region, with Nigeria inclusive.² Due to population growth, new health issues have been discovered which have to be attended to by specially skilled medical professionals and there is an increased burden on health facilities.³ Medical and dental

schools are training centres for doctors and dentists who will care for the population, although some may decide to migrate to other countries⁴ and such decisions affect the specialists composition in the country.⁴⁻⁶ Another issue is that some specialties tend not to be attractive and are chosen by few persons.⁴

Making a specialist career choice in medicine is influenced by many complex factors.⁷⁻⁹ Some of these factors are affection for the specialty, having a feeling of satisfaction with the chosen specialty, understanding the

scope of that particular specialty, parental influence; especially if either of the parents works in that specialty,³ economic factors, the number of years required for training, stress faced in the specialty, risks and occupational hazards associated with the specialty,⁸ expectations by the family, job opportunities, the opportunity of having a personal practice, role models and mentors in the specialty, prestige associated with the specialty, lifestyle and time available for oneself, economic security and number of patients that will be attended to.^{6,10} Having mentors and role models at the undergraduate stage affects choosing a specialty for residency training, this also extends to subspecialisation during the residency training. Nigeria is a developing country, trainings in some medical specialties are not yet available in the country and anaesthesiology is a specialty that is both rewarding and challenging.¹¹ From various studies conducted in various parts of the world, anaesthesia has been viewed as not being attractive to both medical students and resident doctors. The choice of medical specialties by new graduate doctors thus add to the burden of poor manpower experienced in anaesthesia.^{6,12}

In 1967, the training in anaesthesia commenced in West Africa as a diploma and in 1970 as a postgraduate fellowship.¹³ Having subspecialisations in anaesthesia in Nigeria will increase awareness about the specialty to medical students.¹⁴ Hence this study is on the choice of subspecialisation in anaesthesia among anesthesiology resident doctors in two Nigerian hospitals.

MATERIALS AND METHODS

This was a cross-sectional study conducted in 2018 among resident doctors in two teaching hospitals in Port Harcourt, Nigeria. Participation in the study was voluntary.

A semi-structured questionnaire divided into four sections was used for the study. Section A on demographics comprised of four questions on age, sex, marital status and hospital ownership's structure where the anesthesiology resident is working. Section B on professional practice comprised of five questions on the anesthesiology resident cadre/rank at the workplace, the number of years of practicing anaesthesia, if the anaesthesia was practiced before commencing residency training in anaesthesia, highest professional qualification/certification in anaesthesia and if anaesthesia was studied in medical school. Section C had questions related to the choice of anaesthesia as a medical specialty with three questions on the time in medical career when the choice to specialize in anaesthesia was made, an attempt at the primary examination in any of the medical faculties of a postgraduate medical college besides anaesthesia and reasons for choosing anaesthesia for residency. Section D is comprised of seven questions on the choice of anaesthesia subspecialty.

RESULTS

A total of 36 anesthesiology residents in Port Harcourt participated in the study. Table 1 shows the social demographics of the respondents. Most of the respondents were between the ages of 30-39 years (69.4%, n = 25), 24 (66.7%) were males, 28 (77.8%) were married and 34 (94.4%) worked in a university teaching hospital.

Table 1: Social demographics of the respondents (n=36)

Variable	Frequency(n)	Percent (%)
Age		
20-29	1	2.8
30-39	25	69.4
40-49	9	25
50-59	1	2.8
Sex		
Females	12	33.3
Males	24	66.7
Marital status		
Single	7	19.4
Married	28	77.8

Divorced	1	2.8
Hospital ownership		
University Teaching Hospital	34	94.4
Federal Medical Centre	1	2.8
Specialist Hospital	1	2.8

Table 2 shows the professional history of the respondents. This shows that 11 (30.6%) of the respondents were senior house officers, 21 (58.3%) had practiced anaesthesia for 1-5

years, 6(16.7%) practiced anaesthesia before commencing residency and 34 (94.4%) of the respondents studied anaesthesia as an undergraduate.

Table 2: Professional History of the respondents

Variable	Frequency(n)	Percent (%)
Cadre		
Senior house officer	11	30.6
Registrar	11	30.6
Senior Registrar	10	27.8
Senior medical officer	3	8.3
Principal medical officer	1	2.8
Years of Practice		
1-5years	21	58.3
6-10years	10	27.8
11-15years	3	8.3
16-20years	1	2.8
16-20years	1	2.8
Practiced Anaesthesia before commencing Residency		
Yes	6	16.7
No	30	83.3
Highest Professional Certificate		
Diploma in Anesthesia	6	16.7
Master of Science in Anaesthesia	2	5.6
Part 1 of a Postgraduate Medical College	10	27.8
Part 2 of a Postgraduate Medical College	2	5.6
Post-Doctoral Fellowship in Anesthesia	7	19.4
Primaries	9	25
Studied Anaesthesia as an undergraduate		
Yes	34	94.4
No	2	5.6

Table 3 shows the time and reasons for choosing anaesthesia as a medical specialty. 14 (38.9%) of the respondents chose anaesthesia as a specialty after the National Youth Service Corps, 16(44.4%) had written a

primary examination and 18 (50%) chose the specialty because of the satisfaction and excitement of working as an anesthesiologist.

Table 3: Time and reasons for choosing anaesthesia

Variable	Frequency(n)	Percent (%)
Time anaesthesia was made a choice		
While in medical school	5	13.9
During house job/internship	7	19.4
During NYSC	7	19.4
After NYSC	14	38.9
Did not Pass primary	1	2.8
Did not get a place of residency	2	5.6
Written Primary examination		
Yes	16	44.4
No	20	55.6
Reasons for choosing anaesthesia		
Enjoyment/excitement	18	50
Encouraged by an anesthesiology resident	17	47.2
Availability of residency slots	16	44.4
Career Progression	14	38.9
Personal Interest	14	38.9
Admired anaesthesia	12	33.3
Competitive	10	27.8
Posting rotation	9	25
It affords me time	9	25
Academic of research opportunities	7	19.4
Conducive environment	7	19.4
They are always behind the scene	7	19.4
Less contact with body fluid	7	19.4
Locum Opportunities	6	16.7
Had a role model	5	13.9
Had an anaesthesiologist family member	4	11.1
It is risky	4	11.1
Previous employment	4	11.1

Table 4 shows the results of choosing a subspecialty in anaesthesia. Thirty-five (97.2%) of the respondents will like to subspecialise in anaesthesia, 17 (47.2%) reported that they will be interested in a subspecialty training that

is only available abroad even if it is self-sponsored, 21 (58.3%) are interested in critical care and 17 (47.5%) are interested in anaesthesia because of the available opportunity in Nigeria.

Table 4: Choice of Anesthesia subspecialty

Variable	Frequency (n)	Percent (%)
Will subspecialise in anaesthesia		
Yes	35	97.2
No	1	2.8
Choice influenced by the availability of space		
Yes	18	50
No	18	50
Interested in an area where training is abroad/self-sponsored		
Yes	17	47.2
No	19	52.8
Interested in an area where training is abroad/sponsored		
Yes	31	86.1
No	5	13.9
Interested subspecialty		
Critical care	21	58.3
Obstetric Anaesthesia	4	11.1
Pain Medicine Regional Anaesthesia	3	8.3
Paediatric Anaesthesia	2	5.6
Cardiothoracic Anaesthesia	3	8.3
Ambulatory Anesthesia	2	5.6
Neuroanaesthesia	1	2.8
Formal training		
Yes	8	22.2
No	28	77.8
Availability of training opportunities in Nigeria	17	47.2
Personal interest	9	25
Financial benefits	8	22.2
Locum Opportunities	7	19.4

DISCUSSION

It is necessary to have subspecialist anaesthesiologists in Nigeria to administer anaesthesia for the various surgical specialties, but the training for most of these subspecialisations are not available in Nigeria. Some of these subspecialisations in anaesthesia are in cardiothoracic anaesthesia, paediatric anaesthesia, neuroanaesthesia, adult and paediatric intensive care

medicine, obstetric anaesthesia, pain medicine and transplant anaesthesia. Though a postgraduate fellowship in some of these anaesthesia subspecialties is not available in Nigeria, 97.2% of residents in this study would like to subspecialise. This high interest in subspecialisation in anaesthesia is similar to a study conducted among anesthesiology residents in Turkey where 21.70% do not desire to subspecialise in

anaesthesia.¹⁵ Availability of space for residency did not affect the choice of anaesthesia as a medical specialty by 50% of anesthesiology residents. Availability of sponsorship was key in this study as 52.8% said they were not interested in subspecialisation if the training is not available in Nigeria and training abroad will be self-sponsored. This means a lot of expenditure due to the exchange gap between the Nigerian Naira and foreign currencies. Most of the residents were interested in critical care and obstetric anaesthesia.

Most of the residents have not had any formal training in any anaesthesia subspecialty as only 22.2% had received formal training in an anaesthesia subspecialty. The availability of training opportunities in Nigeria was the reason why the majority will like to subspecialise in anaesthesia. Few residents in this study though have chosen anaesthesia as a medical specialty, did not study anaesthesia in medical school. This may be due to the absence of an anesthesiology department manned by physician anesthesiologists. This may also be the reason why anaesthesia is not attractive to resident doctors as some of them have not been exposed to anaesthesia as a medical specialty in medical school. Some of the respondents who participated in this study were supernumerary resident doctors from other hospitals that either do not have accreditation for residency in anaesthesia or there is no anaesthesia department in their primary place of work. Various studies have shown that the duration of exposure of medical students during clinical clerkship affects their interest in the specialty.^{3,5,11} Hence the short duration of exposure by medical students to anaesthesia rotation in medical school contributes to the lack of interest in the specialty.^{9,14} Only 13.9% chose their medical residency specialty while in medical school as the majority of them chose during internship. This is similar to the study by Tyagi et al where 84% of the study population who were anaesthesia students chose their specialty in anaesthesia after internship.¹⁰ There is hope that there will be development in the different subspecialties in anaesthesia to cater and provide the required manpower in anaesthesia and also the different surgical specialties and subspecialties.

CONCLUSION

There is a lack of manpower in anaesthesia in developing countries. This is due to the short duration of anaesthesia rotation during clinical clerkship in medical school and sometimes no exposure at all. Most Nigerian anaesthesia trainees are willing to subspecialise in anaesthesia.

However, this is greatly influenced by the availability of sponsorship in the form of bursaries and scholarships, as most of these anaesthesia subspecialty trainings have to be done abroad in developed countries, with a huge financial burden involved. Most of the study population will like to subspecialize in critical care medicine and obstetric anaesthesia.

Limitations

This study was conducted among a small population and the result may be different if a larger population is studied.

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