

Factors affecting Career Preferences for Nephrology among Medical Interns in South-South Nigeria

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Abstract

Background: Despite the increasing magnitude of kidney disease, there appears to be a dearth of Nephrologists globally. This is more disturbing in low income countries like Nigeria where health care is already staggered by several factors. The aim of the study was to determine the career preferences for nephrology among medical interns as this may be an indicator of the future nephrology workforce

Methods: This cross-sectional descriptive study was carried out among interns in four tertiary hospitals purposively selected in south-south Nigeria between January and March, 2021. A self-administered questionnaire was used to obtain their biodata, information on factors influencing specialty choice, deterrents to choice of nephrology and their recommendation.

Results: Only 8(5.4%) respondents were interested in specializing in nephrology. The most important factors determining choice were post-fellowship job opportunities (57.6%), opportunities to perform procedures (51.5%) and prospect of a future private practice (37.9%). The most important factors cited as deterrents to choosing Nephrology included high risk of death (41.2%), poor outcome of patients (36.6%) and severity of illness (31.7%) Recommendation made by respondents included provision of standard equipment and working tools (82.1%), improved quality of service (80.6%) and provision of health insurance for patients (77.8%).

Conclusion: Career preference for nephrology was low and deterred by high risk of death and poor outcome of renal patients. Specialty choice was mainly influenced by job opportunities, opportunities to perform procedures and prospect of future private practice.

KEYWORDS: career, deterrents, hospital, medical interns, nephrology, specialty

Introduction

Nephrology is an aspect of medicine that is concerned with study of the kidneys, including normal kidney functioning, preservation of kidney health and treatment of kidney diseases. In most climes, including Nigeria, the major pre-requisite to becoming a Nephrologist is completion of an undergraduate medical degree followed by a three - year residency in basic internal medicine training and ultimately a 2 or 3- year fellowship focused on nephrology. Nephrology, as a sub-specialty in Internal Medicine in Nigeria, is offered by the National Postgraduate Medical College (NPMC) and the West African College of Physicians (WACP).

There is a general dearth of Nephrologists globally,¹ which is rather disturbing considering the increasing burden of chronic kidney disease (CKD) being observed in many parts of the world. The situation is even worse in low-income countries like Nigeria where health care is already constrained with lack of basic infrastructure, poor funding, very minimal health insurance coverage, and inadequate health personnel with emigration of the work force.² The ratio of nephrologists per population in Nigeria is still one of the lowest in the world with about 0.6 per million population markedly contrasted against the expected number of 15 per million population.^{3,4,5} There is a total of about 400 adult Nephrologists in Nigeria as at today with the balance largely tilted in favor of urban centres, making the rural communities to suffer⁶ The worst does not seem to have been over as experts have predicted a decline in the nephrology work force over the next decade.¹ There is therefore an urgent need to encourage more interest in the specialty to meet this need. Factors postulated as being responsible for the apparent shortage of Nephrologists include increasing burden of CKD,⁷ declining interest in nephrology and lack of exposure to the specialty among students and residents. Other possible reasons may include the rising cost of medical education and specialist training,⁸ inflexible work schedules of a Nephrologist⁹ and lack of autonomy or erosion of the

nephrology practice scope by other specialists.¹⁰ Knowledge of local factors influencing nephrology choice will be indispensable when planning for interventions aimed at addressing the shortage of workforce in that locality.

The aim of this study was therefore to determine the career preferences for nephrology among medical interns in south-south Nigeria and to identify the perceived influencing and deterring factors. The preferences of these newly graduated doctors will determine the future composition of the physician workforce. Studies have shown that specialty choices are often made during the formative years of the medical career.¹¹ Although there have been reports on career preferences on nephrology among doctors in Nigeria and elsewhere, most have focused on older doctors who have already begun their specialty journey¹²⁻¹⁵ or on medical students.¹⁴

This study however focuses on doctors undergoing internship, which is a critical stage of decision making in the medical career, and therefore will help to fill an existing knowledge gap. The findings of the study may have implications for career counseling, policy formulations and service planning in the health care sector.

Materials and Methods

This cross-sectional descriptive study was conducted among internist doctors working in four tertiary hospitals in Nigeria which were purposively selected from three states. The centres were the University of Benin Teaching Hospital (UBTH) in Edo State, University of Port Harcourt Teaching Hospital (UPTH) in Rivers State and Niger Delta University Teaching Hospital (NDUTH) in Bayelsa State as well as the Federal Medical Centre, Yenagoa (FMCY) also located in Bayelsa State. The three states are located in south-south Nigeria. The selected institutions are the principal tertiary hospitals in their respective states serving as teaching hospitals for medical and paramedical students in affiliated universities as well as for postgraduate residency programme. In addition, they provide internship training for graduates in medicine, pharmacy, laboratory

science and other allied fields.

The study was a total population study of medical internists rotating through various departments of the selected hospitals. The study was carried out between January and March, 2021. Individuals who did not give informed consent were excluded from the study. The five-part questionnaire adapted from previous studies¹¹⁻¹² was self-administered to respondents. The first part comprised socio-demographic data including gender, and marital status as well as training background of the respondents, while the second section had two major items assessing interest in nephrology. Section C contained items bordering on factors that influence respondents' choice of a medical specialty. The fourth section of the questionnaire contained items on deterrents of a career in nephrology while the fifth part contained recommendations which could improve nephrology interest and practice.

Respondents were asked to rate factors on a five-point Likert scale according to their perceived extent of influence on the choice of a medical specialty and the factors responsible for the lack of interest in nephrology or the decision to forego the specialty as the case may be. Respondents were also asked to rate recommendation which they perceived may help stimulate interest in nephrology specialty. The factors being rated were based on recurrent themes from previous work.¹¹⁻¹²

Ethical approval for the study was obtained from the Research and Ethics Committee (REC) of NDUTH. Ethical principles of anonymity, privacy and confidentiality of information

were maintained throughout the study. Informed consent was obtained from participants before commencing the study. Participation in the study was entirely voluntary and without coercion or undue persuasion and no incentives were offered to participants. There were no ill consequences for refusal to participate. Respondents were at liberty to skip any question they did not wish to answer.

Data was analyzed using IBM SPSS version 20.0. Categorical data was presented as proportions using frequency and percentage distributions while continuous variables such as age was analyzed using mean and standard deviation. Data was presented in tabular and graphical forms.

Results

A hundred and forty nine medical interns were given the questionnaire, representing the total number of medical interns available in the facilities with a 100% response rate. They all completed the survey with UBTH accounting for the largest proportion of participants in up to 70(47.0%) followed by NDUTH (24.8%) and UPTH (20.8%) while FMCY had the least number of respondents (7.0%). There were a total of 94 (63.1%) males and 55(36.9%) females. One hundred and thirty one respondents were 'never married' while the remainder were 'ever married.' The mean age of the respondents was 24.7 \pm 2.82 years and ranged from 22 to 42 years. A large proportion (43.6%) of the respondents were between 26 and 28 years old. Majority of respondents (75.2%) had dialysis facilities in their centres while the remainder did not have. The socio-demographic data of respondents is shown in table 1.

Table 1: Socio-demographic variables of Respondents

Variable	Proportion (%)
Age	
<25	49(32.6)
26- 28	65(43.6)
\geq 29	35(23.5)
Gender	
Male	94(63.1)
Female	55(36.9)

Variable	Proportion (%)
Marital status	
Never married	130
Ever Married	19
Institution	
UBTH	70(47.0)
UPTH	31(20.8)
NDUTH	37(24.8)
FMCY	11(7.4)
Presence of dialysis facilities in centre	
Yes	112(75.2)
No	37(24.8)

UBTH = University of Benin Teaching Hospital, UPTH = University of Port Harcourt Teaching Hospital, FMCY = Federal Medical Centre, Yenagoa

Only 8(5.4%) respondents were interested in specializing in Nephrology. Up to 81(54.4%) respondents were definitely not interested in nephrology as a career while the remainder were undecided. Over half (77; 51.7%) of respondents had never considered a career in Nephrology at any time (fig 1).

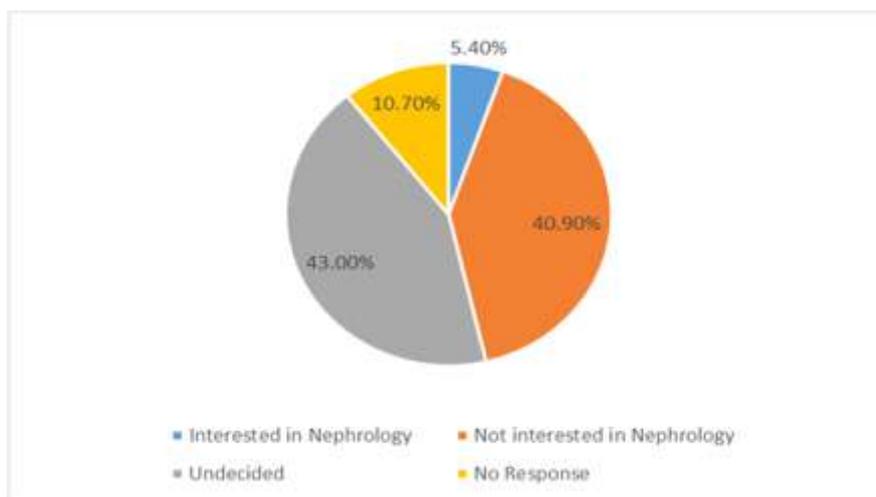


Fig 1: Interest in nephrology as a specialty among the respondents

Twenty seven respondents (18.1%) felt that surgery and related sub-specialties were more appealing. Other specialties commonly cited in those not considering nephrology were obstetrics and gynecology (4.7%), cardiology (4.7%), and community medicine (3.6%).

The most important factors considered to be 'very important' in determining choice of specialty were post-fellowship job opportunities (57.6%) opportunities to perform procedures (51.5%), and probabilities of establishing a private practice after completion of residency (37.9%). Personal interest in the subject, suitable post fellowship work balance and financial compensation were other important factors. The rating of these factors by respondents are as shown in fig 2.

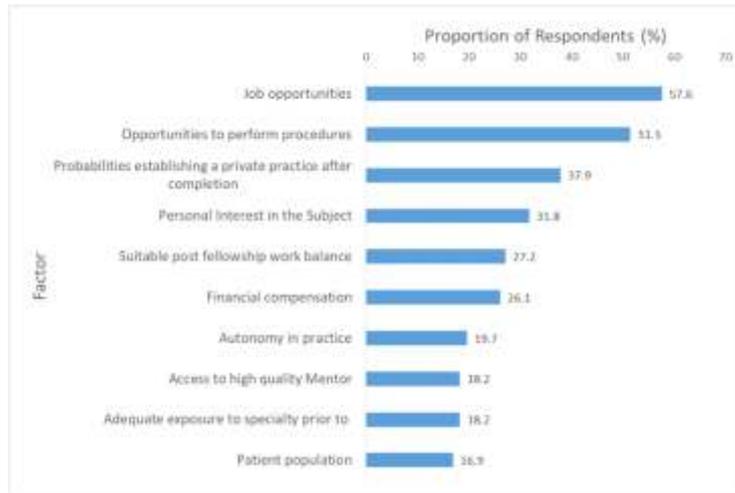


Fig 2: Factors considered to be very important in choosing a specialty among the respondents. The most important factors cited as deterrents to choosing Nephrology as a career were patient-related. High risk of death among patients (41.2%), poor outcome of most patients with renal conditions (36.6%) and severity of illness (31.7%) were the most important. Late presentation of patients, lack of interest in the subject and expensive or unaffordable treatment were other important factors that discouraged respondents from postgraduate training in nephrology (fig 3).

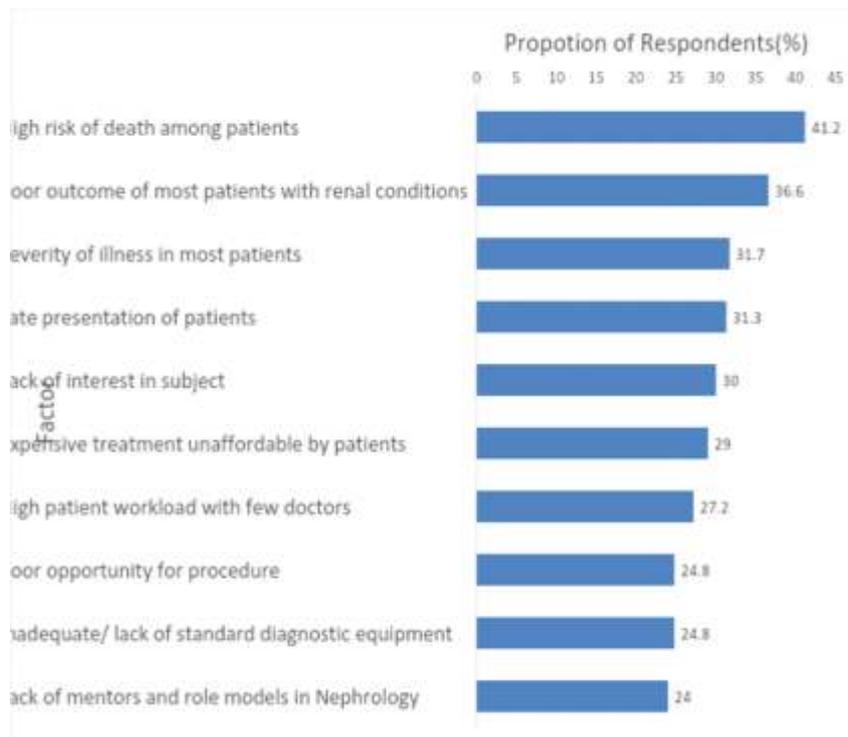


Fig 3: Factors perceived to be very important deterrents to nephrology choice among respondents

About 82.1% and 80.1% of respondents respectively believed that provision of standard equipment or working tools and improved quality of care were very important in stimulating nephrology career interest among doctors. Other recommendations rated to be very important were provision of health insurance for patients needing renal care (77.8%), creating a work-friendly environment (72.9%), building governmental interest, financial support and subsidized fees for renal patients (72.2%) as well as improving annual income / financial rewards of the Nephrologist (72.2%) and provision of incentives to doctors in nephrology (71.6%), as shown in fig 4.

Fig 4: Recommendations considered very important by respondents in encouraging nephrology interest.

Discussion

This study showed that only 5.4% of our respondents had interest in pursuing postgraduate training in nephrology. This calls for great concern bearing in mind that some of these respondents with current interest in the specialty could still change their decision in keeping with reports of Oyebisi *et al*¹² and Barat *et al*¹⁶ while some may even end up not practising in Nigeria. Recently in the country, the health sector has suffered from massive brain drain which has been occasioned by poor welfare package for health workers, high level of insecurity and poor working condition among others.¹⁷ The finding of declining interest in nephrology is similar to previous reports from both high and low income countries, despite increasing demand for nephrology care.¹⁸⁻²⁰ This personnel deficit is even more pronounced in sub-Saharan African countries such as Nigeria.²⁰

This study also identified factors considered as 'very important' by our respondents in their career choice for postgraduate training. The most important factors were job opportunities post-qualification (57.6%), availability of procedures to perform (51.5%), opportunities to establish private practice (37.9%) and personal interest in nephrology as a subject (31.8%). Some of these factors are similar to reports from previous studies done in Nigeria, Asia, Australia, and United States of America.^{11, 21-24} About 18% of our respondents considered mentorship as a very important factor in career choice. This is quite similar to the findings by Hin *et al* in a study conducted among medical students and medical doctors in Canada.²² Although access to mentorship per se was considered as a very important factor influencing career choice in only a small proportion of respondents, lack of access to it was also considered a deterrent to nephrology pursuit. Several studies have emphasized the role of mentorship in postgraduate career choice.^{12, 18, 23-25} This brings to the fore the need

for senior colleagues in nephrology to make deliberate efforts towards mentorship and stimulation of interest of younger colleagues in nephrology.

The identified factors that influenced postgraduate career choice in our study may provide insight for stakeholders in nephrology such as Nigerian Association of Nephrology and Postgraduate training colleges on areas to focus with the aim of promoting nephrology specialization. For example, reviewing postgraduate nephrology curriculum aimed at achieving competency in some branch of nephrology such as interventional nephrology may make nephrology more attractive to young doctors in line with our findings.

The most important factors discouraging doctors from choosing to specialize in nephrology as observed in this study were high mortality rates and poor outcome of renal patients, heavy workload of nephrologists, expensive or unaffordable cost of care for renal patients, inadequate exposure to nephrology during undergraduate training and limited diagnostic facilities in nephrology. This finding of poor outcome of patients as a deterrent to the choice of nephrology is similar to previous reports by Oyebisi *et al*¹² and Jhaveri *et al*¹⁵ Studies in Nigeria have reported poor survival with a dismal outcome among end stage renal disease patients which constitute a higher proportion of patients seen in nephrology practice.²⁷⁻²⁹ Factors that contribute to the high mortality include late presentation of patients and their lack of capacity to cope with the huge and highly demanding financial resources required to manage patients with CKD especially those requiring renal replacement therapy.^{27-28, 30} This has been further compounded by the fact that only a small proportion of these patients have insurance cover. In Nigeria, the national health insurance scheme (NHIS) currently provides insurance coverage for a maximum of six sessions of hemodialysis for the entire lifetime of the affected patient which is ridiculously inadequate. There is need for government to increase this coverage and to include state

government workers and the informal sector. This will significantly reduce the financial burden on these patients, improve their outcome and make nephrology more attractive to younger doctors.

Some respondents noted that inadequate exposure to nephrology during undergraduate medical training was an important discouraging factor, similar to findings of some previous studies^{23, 31} inadequate exposure to nephrology during early training may deprive medical students and young trainees the potentials and opportunities inherent in the field. This underscores the need to review the medical undergraduate and internal medicine junior residency curriculum so that the various aspects of nephrology are adequately covered. Jhaveri *et al*³² reported that an innovative design of nephrology training that exposes students and trainees to every aspect of nephrology and faculties with diverse expertise had effect in stimulating interest in nephrology and positive mentoring experience.

'Limited diagnostic facilities' was also identified as a discouraging factor in choosing nephrology. For example, there are only few diagnostic facilities and trained personnel in renal histopathology in Nigeria. This aspect of nephrology is highly pivotal in diagnosis and management of glomerulonephritis which is an important aetiology of renal diseases in Nigeria. Presently, there is no centre in the country with functional facility for electron microscopy and only very few—centres do immunofluorescence on renal tissue. The challenge may be solved by Nigerian Association of Nephrology working in conjunction with the government to build capacity in this important aspect of nephrology. About 27% of the respondents identified 'heavy workload' as a discouraging factor to nephrology specialization which is similar to reports from some previous studies.^{12,18-19,24,31} Heavy workload in nephrology may be related to shortage of nephrologists and the need for frequent clinical review and monitoring that becomes necessary as majority of patients present late and severely ill in developing

countries like Nigeria. Also, most patients on chronic dialysis are persistently in uraemic state due to their inability to cope with financial demand of regular dialysis, hence they are often ill and require regular review.

Our respondents also suggested ways of improving nephrology specialty in order to make it attractive to younger doctors. These include provision of social security to renal patients, improvement in diagnostic and treatment facilities and provision of incentives to nephrologists. This is expected to improve overall patient outcome and make nephrology more appealing.

A limitation of this study is the small sample size making it difficult to generalize the findings. The study was conducted at a time when there was limited number of interns across the nation due to inability of medical schools to graduate students during the corona virus pandemic. However, a major strength lies in the fact that it was a multi-centre study.

In conclusion, we found that only few interns were interested in pursuing postgraduate training in nephrology in southern Nigeria. Identified factors that discouraged them from choosing nephrology were high mortality rate of renal patients, heavy workload of nephrologists, expensive and unaffordable cost of care for renal patients, inadequate exposure to nephrology during undergraduate training, limited diagnostic facilities in nephrology and lack of access to mentorship. We strongly recommend that the Nigerian Association of Nephrology, postgraduate colleges and government work in synergy to make nephrology more attractive by implementing the various suggestions made.

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