

Perceptions towards Nephrology Specialty: The Good, the Bad and the Ugly

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ABSTRACT

Background: There is a decline in the interest in pursuing a career in nephrology globally as well as locally in Northern Ireland. There is also an expansion in the burden of kidney disease worldwide due to a combination of factors like higher detection rates, increase in population size and improved life expectancy. Workforce shortages in nephrology have a direct impact on provision of care for people with kidney disease. Understanding perceptions among doctors towards nephrology is an important factor in acknowledging the barriers in recruitment and advocating evidence based changes to improve current practices.

Aim: The aim of this study is to explore both the positive and the negative perceptions among medical students and trainees towards nephrology as a specialty in order to understand the factors that are most influential in either choosing or forgoing a career in nephrology.

Methods: Scoping review methodology was used to address the research question through a phenomenological lens. Sixteen articles were included that studied the perceptions towards nephrology mainly through questionnaires and also through direct quotations. Basic numerical analysis and content analysis was completed.

Findings: A total of 3745 participants including medical students, trainees and consultants participated in the 16 studies were included in this review at an international level. Most of the studies used survey (questionnaire) as their methodology (n= 10). The seven themes that emerged to describe perceptions towards nephrology were exposure to specialty; complex specialty; mentorship; work- life balance; financial compensation; personal interest; and procedural component. Exposure to specialty was the most influential factor in future career choice decision. The other factors that could improve recruitment in nephrology include innovative and novel teaching methods, good role models, flexible training and working patterns, and adequate financial remuneration.

Conclusions: In order to rekindle interest in nephrology we need a multi-pronged approach based on ensuring early exposure to the specialty, good mentorship, holistic clinical experience covering different aspects of the specialty and the opportunity of flexibly moulding one's interests and skills

whilst ensuring service provision, and with an emphasis on adequate financial remuneration.

Key words: Perceptions, Nephrology specialty, medical students, trainees.

INTRODUCTION

Burden of Chronic Kidney Disease

Chronic kidney disease (CKD) is one of the commonest non-communicable chronic diseases worldwide and a key marker of poor health outcomes in the general population.¹ Its presence also predicts several fold increase in all-cause and cardiovascular mortality.^{2,3} There has been an exponential rise in the incidence of people diagnosed with CKD with current estimates suggesting between 8 and 16% of the world's population affected.⁴ Consequently the prevalence of people receiving treatment for end stage kidney disease (ESKD), the most advanced form of CKD, continues to increase globally. In the UK, the annual incidence of end stage kidney disease in adults is around 154 per million population⁵. This incidence has substantially increased over the past decade and is expected to continue to rise by 5-8% annually.

The reasons for the global rise in the burden of CKD are multifold and could be attributed to factors like improved awareness among primary care practitioners and within the general population leading to higher detection rates, rise in the population size and greater life expectancy. There also is a significant contribution of the global epidemic of type 2 diabetes which has led to the exponential rise in the incidence of kidney disease.⁶ There is hence an urgent need for a proportional increase in the number of doctors and nurses within the specialty of nephrology to cope with this rising demand.

Nephrology Workforce Shortages

Amidst the rise in the prevalence of CKD, there is a global shortage of nephrology workforce having a significant adverse impact on meeting the growing healthcare needs

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of this vulnerable population.⁷ This shortage is equally seen both in the developed world and the developing nations.⁸⁻¹⁴ It has been predicted that if these workforce shortages are not addressed, the delivery of care to people with CKD may be severely compromised in many parts of the world.⁹ There is hence an urgent need to focus on developing strategies to improve recruitment and retention within the specialty of nephrology worldwide.

Future Nephrology Workforce: Training and Recruitment

One of the key reasons for the shortages in the current nephrology workforce is the decline in interest among medical students and trainees in pursuing a career in nephrology.¹⁵⁻¹⁸ In the USA there has been a significant decrease in nephrology training posts fill rates from 94.8% in 2009 to 59.8% in 2016.¹⁹ Similarly in the UK the fill rate in nephrology has fallen from 100% in 2013 to 74% in 2017.²⁰ Understanding the perceptions among prospective applicants towards nephrology would be a good starting point to acknowledge the deficiencies in the current practices and recognize the barriers that need overcome to successfully improve recruitment. It is also equally important to identify these perceptions during the formative years of career development, which have a strong influence on future career choice decision.

Aim

This study aims to explore the perceptions among medical students and trainees towards nephrology as a clinical specialty. It specifically aspires to understand what drives medical students and trainees towards either choosing or forgoing a career in nephrology.

METHODS

This study used both phenomenology and scoping review methodologies as tools to explore the perceptions of doctors towards nephrology specialty. All 5 steps of scoping review methodology were undertaken including (1) Defining the research question, (2) Finding relevant articles, (3) Study selection, (4) Charting the data, and (5) Collating, summarizing and reporting results. To ensure rigor within this study the researchers adopted principles of reflexivity prior to and during the qualitative analysis process.

Search strategy

Five literature databases were selected to cover international literature published across the multiple disciplines of medicine, nursing, art and humanities, allied health fields and social sciences. These included Ovid MEDLINE, EMBASE, Scopus, CINAHL Plus and Web of Science. Five additional articles were identified through listed citations in the searched articles. Internet search and grey literature search were sourced and 2 articles were obtained.

Eligibility criteria

Inclusion criteria

We included any articles with empirical research or syntheses of existing research where: (1) Perception towards the specialty of Nephrology as a career choice was described. (2) The study group were medical students, post-graduate trainees and/or consultants. (3) Articles published between the years 2000 and 2020. The rationale was to capture most recent trends and behaviors, as articles published before the year 2000 could have an undesirable influence on the research findings and might not be relevant to current practices within the specialty.

Exclusion criteria

Any papers exploring the perceptions of patients and allied healthcare staff from various disciplines towards nephrology were excluded. As the primary focus of this study was to evaluate the challenges with recruitment, it was felt to limit the study group to medical students and doctors in training, who are the prospective applicants to the specialty.

We also excluded papers exploring the quality of training in nephrology and looking at the effectiveness of training programs as their predominant impact is on future practice and competencies which was felt beyond the scope of this review.

Data Charting

Data was extracted from each article by a single reviewer and was charted using headings including author(s); year of publication; journal of publication; study location (country); aims of the study; participants; methods; and methodology.

Data synthesis

We used conventional qualitative content analysis to analyze quotations and questionnaire responses.²¹ These responses were reviewed in detail and text capturing key concepts was highlighted. Our initial thoughts and reflections were also noted. We subsequently allowed codes to emerge directly from quotations and responses. The related codes were then grouped into sub-categories. Finally, the related sub-categories were organized into larger themes.

We used Microsoft Excel to complete basic numerical analysis of the charted data from 16 selected articles. Formula functions were used to produce graphical illustrations.

RESULTS

From our initial and updated searches we identified a total of 396 potentially relevant articles.

After 183 duplicates were removed, 213 titles were screened and 81 full-text studies were chosen for a more detailed review. Sixteen studies were identified as meeting our criteria and relevant to our review question.^{8, 11, 17, 19, 26-28, 30, 32, 33, 35, 37-41} An overview of the study selection process and reasons for exclusion are provided in Figure 1.

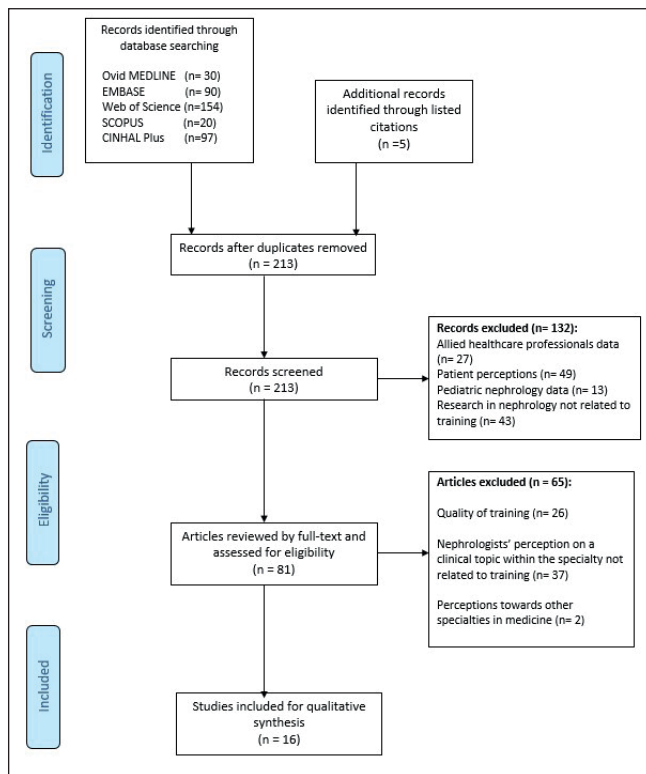


Figure 1: Flowchart outlining the study selection process

Dates and Origin of Studies

The year of publication ranged from 2008 to 2019. Figure 2 demonstrates a rising trend in the number of publications between 2017 and 2019, indicating an increasing research interest in recent years. Publications originated predominantly in 4 countries. Of the 16 publications, 11 originated from United States of America (USA), 3 from United Kingdom (UK) and 1 from Ireland and Australia respectively. Majority of articles were hence from USA (70%) followed by UK (20%).

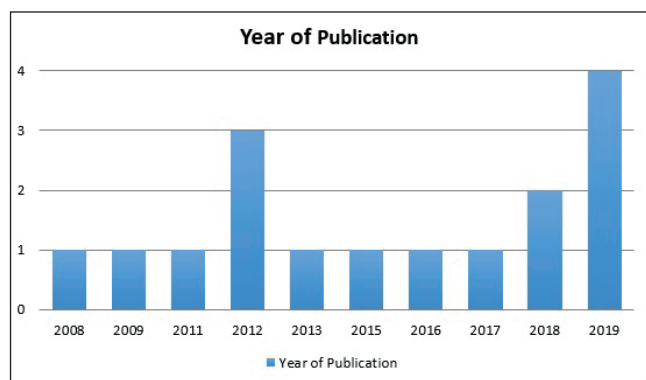


Figure 2: Year of publication

Number and Professional Grade of Participants

3745 participants in total were noted in the included studies. Figure 3 illustrates the total number of participants in each study. The number of participants per study ranged from 10 to 913. Four studies included over 500 participants and three

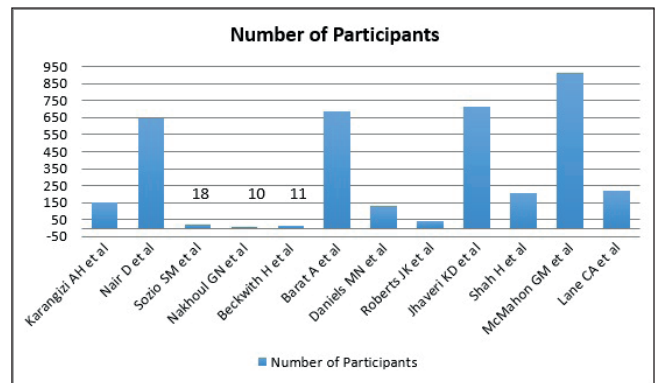


Figure 3: Number of Participants

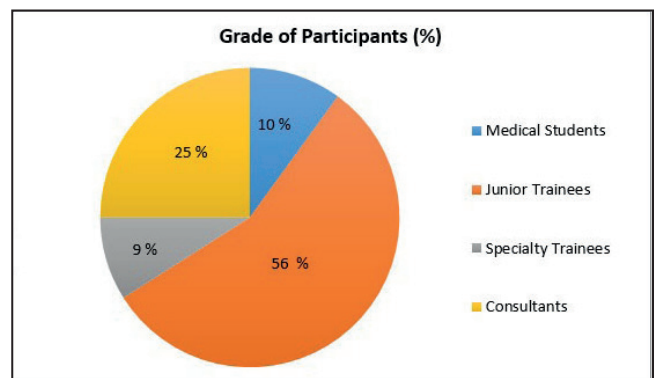


Figure 4: Professional Grade of Participants in percentage

studies included less than 20 participants. Figure 4 illustrates the grade of the participants included in various studies. The majority of participants were junior trainees (56%; n=2109). This cohort comprised doctors who are in years 1 – 5 after graduation (Foundation trainees and Internal Medicine trainees in UK and Internal Medicine residents in USA). Doctors undergoing post-graduate training in Nephrology (Specialty Trainees in UK and Nephrology Fellows in USA) formed the minority group (9% n=340).

Methods and Methodologies

All studies used qualitative methods and methodologies as stipulated in the inclusion criteria. Web based questionnaires were the most common method followed by paper-based questionnaires, commentary, semi-structured interviews and focus groups (Figure 5). Survey was the most

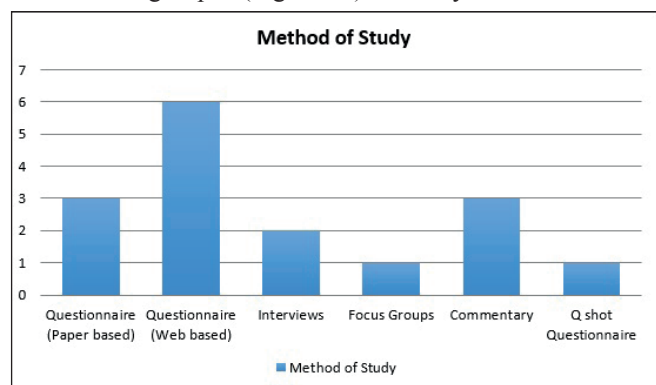


Figure 5: Method of studies



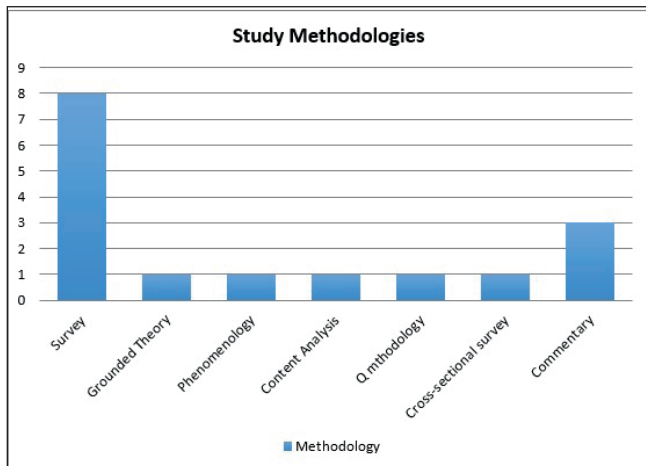


Figure 6: Study of Methodologies

common methodology used followed by grounded theory, interpretative phenomenological analysis and content analysis in equal proportions (Figure 6).

Perceptions towards Nephrology

Seven themes emerged from this review. Exposure to specialty and complex specialty were the most referenced themes with 34 and 33 codes generated respectively. The other themes included mentorship, work-life balance,

Themes (descending order)	No. Codes	No. Articles referenced to
Exposure to Specialty	34	14
Complex Specialty	33	9
Mentorship / Role Model	28	10
Work-life Balance	24	10
Financial compensation	21	8
Personal Interest	19	9
Procedural Component	5	4
Number of Themes: 7	Total No. Codes: 164	Total No. Articles: 16
		Average no. Articles per theme: 9

Table 1: Numerical Summary of Qualitative Content Analysis on data

financial compensation, personal interest and procedural element. Table 1 shows the number of codes and articles used to generate each theme. A total of 164 codes were generated from within 16 articles. Repeated review of quotations and re-organization of codes generated the 7 themes. On average, each theme is coded to 9 articles.

We have described each theme below along with a selection of quotations and findings from the studies which best represent the theme. These are included in a box beside each theme.

Exposure to specialty

This was the most referenced theme among the studies. Whilst exposure to specialty was found to be one of the

major elements that shaped career choice, lack of exposure was cited as a key reason for not choosing nephrology. Exposure was mentioned in various forms like elective posting during medical school, involvement in research, and clinical experience during postgraduate training posts. We outline some quotations and survey results from this theme.

Junior medical officer experience in a specialty was identified by 82% (n=179) as having a 'major' or a 'very major' role in their career choice.

Of those considering a career in nephrology, 83% had past experience in the specialty as a resident or registrar

At our school when I went to the basic sciences, we didn't have nephrology as a course. It was kind of spread throughout all the classes and it kind of varied and so I would say most of it was taught within our pathology course or histology course.

I shadowed nephrology for a day, but I did not rotate through. It was not a part of the medical school curriculum

Students who participated in the program and did some research in renal went on to pick renal as their specialty later on.

Complex specialty

This was the second most referenced theme. Complexities within nephrology were viewed in various ways and could be further sub-divided into 3 types including subject factors, skill factors and patient factors. Subject factors include difficult pathophysiology and challenging physiology. Skill factor mainly included diverse diagnostic skills required to manage patients in nephrology. Finally, patient factors were perceived as complex very 'sick' patients and patient non-adherence to treatment was also considered as a complexity within the specialty that dissuaded doctors from applying to the specialty.

86% (n=129) of respondents felt that nephrology specialty is highly complex.

When asked what the participants did not like about their experience in nephrology, the most frequently selected answer was that the care of dialysis and transplantation patients was too complicated.

I think nephrology is the one specialty in medicine that offers absolute everything... looking after really sick patients, which I enjoy because of the adrenaline rush and chronic care... You are an absolute specialist and within renal there are many subspecialist areas, but you are also a generalist, you often are the patient's GP once they have had a transplant or are on dialysis... it encompasses every single part of a medical career, and most specialties don't.

It takes a lot of diagnostic skills. I think that is a very cerebral specialty where you have a lot of personal diagnostic skills involved.

Mentorship

Having a role model or a mentor was an important component in selecting nephrology as a career choice. Also receiving good supervision in a clinical posting during postgraduate medical training had a positive effect on the future choice of specialty.

Trainees who were able to identify a role model in renal medicine were also more likely to consider a career in renal medicine (38%) compared with those who did not (15%) (P=0.007).

Candidates considering a career in nephrology placed more importance on positive role modeling than did those choosing other physician specialties (t=2.246, d.f. 209, P=0.026).

I made the decision to enter nephrology after exposure to mentors with true passion in the field.

It was the mentors, always. Now I try to be that same positive role model and influence for my students, residents, fellows and junior faculty. That's how we'll keep the pipeline going – through the personal touch.

One of the things that drives them in is the faculty, and I think that faculty and... responsiveness of faculty to-and interest in faculty in-developing the medical students and giving them good experiences is... key of this whole thing. For a student to see themselves as nephrologists, they have to feel as if they could see themselves as a faculty person. So they have to connect to the specialty but more importantly, the faculty member.

A big factor in attracting students and residents to the field of nephrology has been just providing really good teaching from likeable individuals. And I just get a sense that when students try to master the topic that's' when their interest develop.

Work-life balance

Work-life balance was perceived both in the context of positive influence and negative effect on the eventual career choice. The positive perceptions were life-style oriented specialty, vocational flexibility and portfolio careers. Portfolio careers is ability for a specialty to offer the opportunity for development in different sub-specialist areas. The examples described in nephrology were interventional nephrology, academics and research and, transplantation. On the other hand the negative perceptions that were associated with poor work-life balance were heavy workload, stressful work and long hours.

77% respondents (n= 115) considered the workload in renal medicine to be moderate to heavy. Importantly, 65% of respondents considered the work-life balance of their chosen specialty to be very important in decision making, while only 12% of respondents felt that a career in renal

medicine was lifestyle oriented.

I am on my second renal month and the days can be long and very stressful. The hours are long, people need emergent dialysis at 2am, and the fellowship is very busy.

The most commonly endorsed negative perceptions of nephrology were life-style factors, including: "Nephrologists must take frequent/ difficult call", "Nephrologists have long work hours", and "Nephrology fellowship requires long hours and burdensome night call."

Financial compensation

Prospective employment and financial compensation were both considered important factors in deciding about future career. When financial remuneration was taken into account, there was a direct comparison made between different specialties and nephrology. Only one UK based study revealed that future financial prospects were unimportant influences.

Nearly one-fourth of the non-nephrology fellow respondents would have considered nephrology if this specialty had a higher income potential (23%, n= 164).

Most respondents agreed nephrology was poorly remunerated (69%, n=96).

Nephrology Fellow: When you see that the residents in your program going for primary care or hospitalists are getting better job proposals and making more money that you it is kind of frustrating

The three top reasons why renal fellows were slightly or not at all satisfied with their career choice included poor income potential after graduation (69.5%, n=142), poor job opportunities (68.3%) and long work hours (54.9%).

Overall financial issues such as 'future financial prospects' and 'financial circumstances whilst training' were perceived to be unimportant influences (UK based study)

A greater proportion of residents considered the availability of post-fellowship job opportunities as a key-driving factor in choosing or forgoing nephrology.

Personal interest

Personal interest in nephrology was influenced by both specialty factors and personal life experiences. The two unique aspects of nephrology as a specialty that kindled interest included long-term physician-patient relationship and multi-disciplinary team working. The attributes those were associated with personal interest included 'enthusiasm', 'commitment' and, 'ability to help others.' Prior personal and family experience with disease and illness also influenced career choice decision. Some negative perceptions regarding the specialty that influenced interest were lack of innovation and research in the specialty.



75.8% (n=154) of respondents (US adult nephrology fellows) found nephrology an interesting subject during medical school or medical residency.

79% (n=508) of participants cited a lack of interest as the most substantial reason to forgo nephrology fellowship training.

The highest percentage of doctors whose first choice of career was nephrology in year 1 (60.7%) and year 5 (81.7%), scored 'enthusiasm / commitment' as having a great deal of influence.

I loved the multidisciplinary side of it, and the teamwork. I did it in the old days, when the unit was quite small, and you actually got to know the staff very well, nurses, dieticians, dialysis nurses, and I liked that approach.

And I really, really enjoyed the fact that there's continuity so you get to know the patients

Procedural component

The procedural component within nephrology was the least common theme in this review. The procedural opportunities within nephrology were perceived both as a positive and a negative attribute.

27.3% of respondents (internal medicine residents) felt nephrology provides few opportunities for procedures

46% indicated that the ability to perform procedures was 'very important' when considering a subspecialty.

DISCUSSION

We have outlined a brief discussion on each of the seven themes identified during this study.

Exposure to specialty

Exposure to specialty is the first step towards letting prospective applicants experience the nature of work that the specialty has to offer. Not surprisingly it therefore has a big influence on the eventual career choice in nephrology.¹¹ This is not unique to nephrology and has also been shown in various other specialties like geriatrics²³, rheumatology²⁴ as well as in surgical literature.²⁵ These studies have also shown that exposure, especially in the early years of training or during medical school, increased students' interest in the specialty. It has also been confirmed that majority of fellows that choose nephrology do so during first 2 years of medical residency training followed by medical students.²⁶ Hence nephrology should form an essential part of the educational curricula, not only given the potential of generating interest at an early stage but also because of the key role of the kidneys in understanding volume homeostasis and acid-base metabolism which are some of the important concepts in human physiology.

Complex Specialty

The perception of complex specialty was further divided into three different aspects. Firstly, kidney physiology was perceived as complex during medical school years and this perception persists during the postgraduate training years and is further compounded possibly due to lack of exposure to the specialty. Introducing innovative kidney physiology curriculum that used multiple teaching methods, led to an improvement in the attitudes of medical students towards learning.²⁷ We hence require a combination of enthusiastic teachers and innovative teaching methods to simplify kidney physiology and improve its understanding.

The second aspect of complexity within the specialty is the perception among trainees of very sick and complex patients. One of the reasons behind this could be that most general internal medicine training posts are hospital based and hence most trainees are exposed to very sick and non-compliant renal patients. There therefore needs to be a redesign of the nature of the training posts in nephrology so as to allow trainees to also experience the multidisciplinary management of high functioning end-stage kidney disease patients, renal transplant group and people with low level of kidney function that are approaching end-stage kidney disease. This will allow trainees to get the full breadth of exposure to various other aspects of nephrology specialty that might help in changing perception and generating interest.

The third aspect of perceived complexity within nephrology was the requirement to acquire a diverse range of skills and knowledge. This in fact could be a positive motivator for people choosing a career in nephrology if combined with early and adequate exposure to the specialty and coupled with good teaching. There is a very interesting quote from a participant (Senior House Officer Grade) from a study that highlights this aspect "I wanted to do it (nephrology)... because I wanted to feel I could... And if I felt I could, I would have achieved something."²⁸

Mentorship

Mentorship has a strong influence on career choice in all specialties including

nephrology.^{17, 29} Medical students and trainees exposed to any specialty are strongly influenced by the attitudes of the senior clinicians and mentors towards teaching and also by the degree of support offered to them. There is also a major impact of the attitudes of senior specialty trainees in nephrology on the perception of junior trainees towards the specialty. There is hence a need to inculcate the importance of good mentorship in the current trainees within nephrology workforce and should be added as a development need to the nephrology training curricula.

Work-life balance

There has been a growing emphasis on work-life balance among trainees when deciding about future career choice. This could mean offering vocational flexibility in training (part-time vs. full time) as well as development of interests within the specialty. Recognition of portfolio careers within nephrology could also form a good intervention to allow consultants within nephrology to branch out into other specialist areas like education, training and research.

There are a few negative perceptions towards nephrology that include heavy workload, stressful and long work hours. One study revealed that 68.7% (n= 627) of US nephrologists surveyed felt their current job was stressful.³⁰ This being a multi-factorial issue could be partly addressed by filling gaps in employment and focussing on individual support and wellbeing. This was shown in another study which suggested that an efficient way of improving uptake within the specialty is to focus on lifestyle aspects; offering guaranteed holiday time, regularity of work schedule and reduced weekly hours worked.³¹ Another potential solution is the promotion of the specialist nurse practitioner role in nephrology. This model has definitely helped in not only sharing the burden of work but also improving patient care in UK. This could be a good model to be adopted in regions where there is an excessive workload and would definitely be a positive influencer in improving recruitment within the specialty.

Financial compensation

This appears to be a significant issue affecting certain countries as reflected in studies conducted in USA and Australia. On the other hand, in the studies conducted in UK future financial prospects were perceived to be unimportant influences.³² This partly could be a reflection of the differences in the nature of financial remuneration between these regions. As per the 2014 AMGA survey in US, nephrologists' financial compensation was far less as compared to similar work intensity fields like non-invasive cardiology, haematology and oncology. There is hence a need for a discussion with the governing bodies to reflect on financial disparities between specialties in order to improve the update and recruitment into nephrology specialty.

Personal interest

In one survey 92% of participants (n= 592) revealed that personal interest in a specialty was the most influential reason for choosing to pursue it.³³ Personal interests are further influenced by individual's own personality and preferences that are partly based on previous experiences and exposure. This theme of 'Personal interest' would hence lie at the heart of all the other themes with strong influences of each one of them. Therefore, to enable the development of personal interest in a specialty, there needs to be a multi-pronged approach based on ensuring early exposure to the specialty, good mentorship, holistic clinical experience during training covering all aspects of the specialty and the

scope of flexibility in moulding one's interests and skills to the development of the specialty; with an emphasis on adequate financial remuneration.

Procedural component

The perceived lack of procedures in nephrology specialty is expected because many nephrologists have ceded certain procedures like dialysis catheter placements and renal biopsies to other specialties (The US Nephrology Workforce, 2015).³⁴ Given that this was the least popular theme in this survey it would be difficult to interpret whether lack of procedures has a major impact on recruitment within the specialty. Further research is hence required to specifically answer this issue.

Study Limitations

Due to the international nature of the study one can argue that the findings and recommendations might not be generalizable across different regions. However apart from the theme of financial compensation, which varied across different countries, all the other themes were a common feature. Hence the findings from this study could be applicable to all the areas included in this review.

One of the other drawbacks of this study were that majority of the articles studied had survey (questionnaire) as their qualitative methodology (10 out of 16 articles reviewed). The authors acknowledge this heavy reliance on one particular type of methodology. Although few articles did use other types of methodologies including grounded theory, phenomenology and content analysis; this emphasizes the need for employing other methodologies when undertaking future research in this area.

Implications

For Medical Students and Doctors in training

There is a perception of challenging physiology and requirement of diverse skills to manage complex patients in nephrology. Seeking guidance from the teachers in areas that appear challenging might help improve understanding in the subject. Also by discussing difficult cases with senior trainees and consultants might enable the development of confidence and building of knowledge through experiential learning during training.

For Trainers and Educators within Nephrology

The role of trainers and educators within nephrology is pivotal in generating interest within the specialty. There is a need for innovative teaching methods that are catered to the future generation of medical students and trainees. The utilization of Internet and social media in nephrology teaching is key for generating interest in the subject.³⁵ This includes use of online educational resources like Up-To-Date, YouTube channel like Nephrology-On-Demand, twitter based journal clubs like @NephJC, podcasts like



“Freely Filtered – NephJC” and “ASN podcast” to name a few. Also the use of point of care ultrasound is gaining increased attention for its use across nephrology care and promoting this during training might generate interest within the specialty.³⁶

For Deaneries and Training boards

The deaneries could redesign the training curricula in nephrology to allow greater exposure to different aspects of the nephrology specialty. This would enable the trainees to get a holistic view of the specialty and hence address some of the negative perceptions and improve interest and recruitment.

Employing Trust Hospitals and Department of Health

Employing authorities have a key role in ensuring adequate work-life balance among practicing nephrologists by ensuring vocational flexibility and supporting the development of additional interests in different fields like education and training. They can also generate interest in the specialty by avoiding financial compensation disparities between different specialists and providing adequate financial remuneration.

For Practicing Nephrologists

Doctors currently working within Nephrology could increase their participation within training and education; thereby ensuring adequate man power to deliver teaching sessions within nephrology. Being good role models themselves and also promoting the current senior trainees in nephrology to acquire mentorship skills will have a major impact on the popularity of the specialty. Ultimately the future of nephrology will depend on the ability of each nephrologist to help students and trainees love their specialty.

CONCLUSION

This review summarizes both the positive and negative perceptions towards the specialty of nephrology among medical students, trainees and consultants. This should allow stakeholders including training boards, employing authorities, trainers, and practicing nephrologists to acknowledge the deficiencies in the current practices within the specialty. This review particularly emphasizes the need to improve exposure of the medical student and trainee to the full breadth of nephrology services that are offered especially the multi-disciplinary team working and the long-term relationships with people that are unique to the specialty. It also highlights the need to change the perception of nephrology being a ‘complex specialty’ by developing innovative teaching methods and ensuring adequate exposure to diverse range of conditions within nephrology. This review also stresses the importance of developing good mentorship and supervisory skills among the current practicing nephrology workforce. There is also an urgent need in future to undertake qualitative studies with diverse

methodologies in order to improve the quality of research in this area and better understand the challenges faced with recruitment.

Conflict of Interests: None

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