

Knowledge and attitude of medical doctors to kidney donation

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Abstract

Background: Medical practitioners by virtue of their training and exposure are expected to educate and counsel patients and their relatives about kidney donation. Therapeutic strategies for patients with end-stage renal disease are dialysis and kidney transplantation. Hemodialysis is done sub-optimally because it's expensive with resultant poor quality of life and death. Kidney transplantation, although also expensive, offers better quality of life with a major drawback being unavailability of kidney donors. A poor knowledge about kidney donation in itself may partly be responsible for low donation rates. This survey was carried out to assess knowledge and attitude of medical doctors in a tertiary hospital to kidney donation and transplantation.

Methods: A cross-sectional descriptive study carried out among medical doctors from the Departments of Surgery, Family Medicine and Internal Medicine, in the University of Benin Teaching Hospital. Knowledge and attitude towards

kidney donation and transplantation was assessed using pre-tested self-administered questionnaires.

Results: One hundred and twelve doctors participated in the study with age range being 24 –55 years, 51(45.5%) of the doctors had a good knowledge of kidney donation and transplantation while 61 (54.5%) had fair knowledge. Sixty-nine (61.6%) were willing to donate a kidney with the most common reason being to save lives.

Conclusion: Knowledge of kidney donation and transplantation among doctors is relatively good; however same cannot be said for their attitude, with constraints to kidney donation being fear of post-surgical complications and fear of developing kidney disease in the future.

Key words: Kidney, donation, transplantation, doctors

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Introduction

Therapeutic strategies for patients with end-stage renal disease (ESRD) are dialysis and kidney transplantation, with the latter being the treatment of choice.^{1,2} Hemodialysis (HD) is more readily available for Nigerian patients but cannot be sustained by most patients because it is expensive.^{3,4} Thus HD is sub-optimal with resultant poor quality of life (QOL) and premature death.⁵ Kidney transplantation although also expensive is cost-effective and offers better survival and quality of life advantages over dialysis.⁶⁻¹⁰ The need and demand for kidney transplantation has a significant impact on the quality and quantity of life of individuals who suffer from ESRD.¹¹

Organ transplant saves thousands of lives worldwide and kidney transplants, now being carried out in 91 countries, has emerged a common therapeutic strategy for patients with ESRD¹ although it is still not readily available in developing countries.

Increasing demand and limited number of organs

available are serious limitations of kidney transplantation.¹² Patients with ESRD, especially those living in developing countries, face many challenges such as lack of access to transplantation centers due to limited or no facilities, attendant issues (such as quality of organs and transmission of diseases) and transplant tourism exploitation.¹³ Economic deprivation in developing countries and the relatively lean expenditure on health care by government contributes to poor transplantation activity and a rate of 0-10 per million population (pmp) in contrast to a rate of 30-50 pmp in the developed world.¹³ While lack of public awareness, poor education and motivation for organ donation and lack of manpower contribute to insufficient transplant programs,^{14,15} in the developing world the major drawback for kidney transplantation worldwide is unavailability of kidney donors.¹² Factors such as physicians perception and more often the belief and behavior of potential donors may account for this mismatch as health care providers can influence the willingness to donate an organ.¹²

A study carried out among Asian American adolescents reported positive attitudes towards organ donation with willingness to donate¹¹. Another study among an adult population in Pakistan reported that adequate knowledge about organ donation, higher socio-economic status and the acceptance of organ donation in their different religions was positively associated with

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motivation to donate.¹⁶

The same trend was noted by Schaeffer et al who reported that knowledge about and attitude to organ donation were highly associated with increasing level of medical education amongst medical students and physicians.¹

Aghanwa et al in a study on knowledge, attitude and willingness to donate a kidney in Ile-Ife interviewed Nigerians made up of first degree relatives of CKD patients, rural dwellers and health workers and reported that 62% of health workers, 52% of relatives and 27.1% of rural dwellers were willing to donate a kidney.¹²

This study aimed to assess the knowledge and attitude of doctors to kidney donation and transplant.

Methods

This was a cross-sectional descriptive study that was conducted at the University of Benin Teaching Hospital, Benin, Edo State, Nigeria, an 800 bedded hospital with 7 clinical departments and 500 doctors including specialist and resident doctors in training. The hospital also has a functioning renal dialysis unit. Knowledge and attitude towards kidney donation and transplantation was assessed using a self-administered, 28 item questionnaire which was developed based on previous studies.^{1,19}

The questionnaires were distributed to doctors in 3 specialties which were chosen from the 7 clinical departments by a random sampling method. These were Internists, Surgeons and Family Physicians. A total of 150 questionnaires were given out.

The questionnaire had three sections. The first section assessed the socio-demographic status of respondents; the second assessed the knowledge about kidney donation and transplantation and the third, the attitude toward kidney donation and transplantation. The second section which assessed knowledge had a total of 25 correct options. A score of one point was given for each correct answer and the total score calculated for each respondent. The maximum obtainable score was 25. A score of 18-25 points was considered as good knowledge of kidney donation and transplantation, 13-17 points as fair knowledge and < 13 points as poor knowledge. The last session assessed attitude and had a total of 20 appropriate responses. Each appropriate response was awarded a point and the maximum obtainable score was 20. A score of ≥ 10 was regarded as a positive attitude while a score of less than 10 was regarded as a negative attitude towards kidney donation. Ethical clearance was obtained from the Research and Ethics Committee of University of Benin Teaching Hospital, Benin City and consent was obtained from the respondents. Confidentiality was maintained and

respondents were made anonymous and identified with serial numbers only.

Data Analysis:

The responses were entered into the IBM statistical package for social sciences (SPSS) version 21 and analyzed using same package. The results are expressed as proportions for discrete variables and means \pm S.D for continuous variables. Chi-squared test was used to determine association between discrete variables. A p value < 0.05 was considered significant.

Results

Of the 150 questionnaires distributed, 112 were returned giving a response rate of 74.7%.

Characteristics of respondents

There were 76 (67.9%) males and 36 (32.1%) females. Forty-two (37.5%) were Internists, 43 (38.4%) Surgeons and 27 (24.1%) Family physicians. Table 1 shows the gender and socio-demographic distribution as well as knowledge and willingness to donate a kidney.

Table 1: Socio-demographic Characteristics, Knowledge And Attitude Of Doctors To Kidney Donation According To Specialty

	Internists n (%)	Surgeons n (%)	Family Physicians n (%)	P Value
Mean age (years)	31 \pm 4	34 \pm 5	34 \pm 7	0.418
Gender				
Male	26 (69.1)	34 (79.1)	16 (59.3)	0.107
Female	16 (38.1)	9 (20.9)	11 (40.7)	
Marital Status				
Single	21 (50)	15 (34.9)	8 (29.6)	0.083
Married	21 (50)	27 (62.8)	19 (70.4)	
Widowed	0 (0)	1 (2.3)	0 (0)	
Religion				
Christianity	42 (100)	43 (100)	24 (88.9)	0.686
Islam	0 (0)	0 (0)	2 (7.4)	
African tradition	0 (0)	0 (0)	1 (3.7)	
General knowledge of kidney donation and transplantation				
Good knowledge	22(52.4)	20(46.5)	9(33.6)	0.89
Fair knowledge	20(47.7)	23(53.5)	18(66.7)	
Willingness to donate a kidney				
Yes	29(42.0)	26(37.7)	14(20.3)	0.20
No	30(54.5)	13(23.6)	12(21.8)	
No response	0(0)	4(80.0)	1(20.0)	

Chi-square done with Yates correction

General knowledge of kidney donation and transplantation

One hundred and ten (98.2%) had heard of kidney donation. Amongst these, 51(45.5%) had good general knowledge of kidney donation and transplantation while 61 (54.5%) had a fair knowledge. More internists (52.4%) had good knowledge of kidney donation and transplantation compared to 46.5% of surgeons and 33.6% of family physicians but there were no statistically significant difference in these proportions ($p=0.89$). However the mean values for general knowledge about kidney donation and transplantation for the internists, surgeons and family physicians were 18.1 ± 3.3 , 17.9 ± 3.5 and 17.6 ± 3.0 respectively and they were not statistically significant ($p = 0.82$).

All respondents were aware of live donations, while 77% were aware of cadaveric kidney donations.

Table 2: Willingness to Donate a Kidney according to Gender, Marital Status and Specialty

Characteristics		Willing to donate	Not willing to donate	P-value
Gender	Male	47(68.1)	28(36.8)	0.92
	Female	22(61.1)	14(38.9)	
Marital status	Single	30(68.2)	13(31.8)	0.71
	Married	39(58.2)	28(41.8)	
	Separated		1(100)	
Specialty	Internist	29 (42.0)	12(28.6)	0.20
	Surgeon	26 (37.7)	17(39.5)	
	Family physician	14 (20.3)	11(47.8)	

Willingness to donate a kidney

Table 3: Factors that influence attitude to kidney donation

Factors	Internists n (%)	Surgeons n (%)	Family Physicians n (%)
Motivating factors			
Desire to save the life of a loved one	24(41.3)	23(39.7)	11(19.0)
Desire to improve the health of a sick person	5(55.6)	3(33.3)	1(11.1)
Ability to survive on one kidney	1(50.0)	1(50.0)	0(0.0)
Militating factors			
Fear of surgical complications	4(66.6)	1(16.7)	1(16.7)
Fear of developing renal disease in future	1(25.0)	1(25.0)	2(50.0)
Belief that both kidneys are required for survival	1(25.0)	1(25.0)	2(50.0)

Sixty-nine (61.6%) of respondents were willing to donate a kidney. Of these, 61 (88.4%) were willing to be either living or cadaveric donors while eight (11.6%) were willing to be living donors only. Table 2 shows the willingness to donate a kidney according to gender, marital status and specialty.

Twenty nine (69.1%) internists were willing to donate a kidney compared to 26 (60.5%) and 12 (44.4%) surgeons and family physicians respectively. Although a larger proportion of internists were willing to donate a kidney, the proportion did not differ significantly among the specialties ($p = 0.20$).

Forty seven (68.1%) male respondents were willing to donate a kidney compared to 22 (61.1%) females. There was no significant difference in these proportions ($p = 0.92$). Thirty (68.2%) single respondents were willing to donate a kidney compared to 39 (58.2%) married respondents. The only separated respondent was willing to donate a kidney. Again these proportions were not significantly different.

Factors influencing willingness to donate

Factors that motivate or militate attitude to kidney donation are shown in table 4. Sixty-nine (61.6%) respondents were willing to donate a kidney because of their desire to save a loved one from dying, 2 (2.9%) because they could survive on one kidney. Factors that militate against kidney donation amongst respondents included fear of surgical complications, fear of developing kidney disease in the future and the belief that both kidneys are necessary for survival.

Discussion

With a background of a high prevalence of chronic kidney disease and the fact that some centres in Nigeria are now able to offer kidney transplantation to patients with ESRD, this study assessed the knowledge and attitude of medical doctors in internal medicine, surgery and family medicine to kidney donation. Less than half of the respondents (45.5%) had good general knowledge of kidney donation and transplantation, despite this a large proportion was willing to donate a kidney.

This proportion differs from an earlier report that 60% of non-health workers in a market place survey had adequate knowledge of organ donation and transplantation¹⁸. Although the variables used to assess knowledge in the report above by Taimur et al may have seemingly contributed to the reported high proportions. We expected a larger proportion of medical doctors to have adequate knowledge bearing in mind the assumption that medical doctors are knowledgeable about organ donation.

Slightly over 60% of respondents were willing to be

living donors with 88.4% willing to be either living or cadaveric donors. Though the prevalence of doctors with adequate knowledge and the prevalence of willingness to be living donors appeared same, their knowledge did not seem to have any influence on their attitude statistically. The prevalence of the willingness to be living donors in this study differs slightly from the prevalence found by Chijioke et al¹⁹ in the metropolis of Ilorin among asymptomatic adults where 55% were willing to donate a kidney. However it was similar to that reported by Aghanwa et al¹² in Ile-Ife where 62% of health workers were willing to donate a kidney. For doctors who were unwilling to donate a kidney, their reasons included the fear of complications of surgery (54.5%) and developing renal disease in the future (22.7%). Also 18.7 % of them wrongly believed that both kidneys were necessary for survival. These reasons are similar to those reported by Chijioke et al¹⁹ and Aghanwa et al¹² in where fear of adverse health consequences, fear of surgical pain and death were the most common. Our findings show relatively no difference in the perception of kidney transplantation between doctors and the general population. This may be explained by the fact that doctors are not adequately exposed to information on kidney donation and transplantation in medical school. Motivating factors for donating a kidney were the need to save the life of a loved one. Sixty-nine percent of the respondents would like to donate their organs to relatives. This is comparable to the report of Taimur et al¹⁸ where 62% of the respondents designated relatives as their most probable recipients. For the results in our survey, we can explain the finding that a large proportion of respondents in this study is motivated to donate a kidney to a relative is an indication of the prevalent closely-knit family set-up, cultural support for family members with consequent desire to help loved ones. Donation of the organ to a family member might be viewed as an obligation or it stems from a feeling of love and compassion for the family member.

All the respondents were aware that live donations were possible while 77% were aware that cadaveric donations were also possible. This finding differs from that reported in Pakistan where only a minority were aware that organs could come from both living persons and cadavers.¹⁸

Conclusion:

Knowledge of kidney donation and transplantation is relatively good amongst medical doctors; however same cannot be said of their attitude. The factors militating against kidney donation included fear of post-surgical complications and developing kidney disease in the future.

Education and enlightenment programs are still needed to help improve the knowledge and attitude toward kidney donation. Inclusion of comprehensive lectures on organ donation and transplantation into the medical school curriculum will be helpful.

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