

**TITLE: KNOWLEDGE OF KIDNEY DONATION AMONG CARE GIVERS IN
TWO TERTIARY HOSPITALS IN SOUTHWEST NIGERIA**

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INTRODUCTION

- Chronic kidney disease (CKD) has become a public health problem due to its increasing prevalence globally and the associated high morbidity and mortality.
- Renal transplantation remains the best choice of treatment for patients with end stage renal disease (ESRD). It offers better quality of life, improved survival advantage and is more cost effective compared to other forms of renal replacement therapy.
- One of the major challenges of kidney transplantation is shortage of kidney donors. As the organ shortage increases the demand for donor kidneys continues to rise thus live kidney donation is essential for increasing the donor pool.

- Care givers (CGs) of patients are potential live kidney donors, but majority of them are reluctant to donate kidneys despite the fact that long term follow up studies on kidney donors have reported it to be safe.
- Some of the barriers to kidney donation include inadequate knowledge about kidney donation and associated risk, fear, mistrust, cultural beliefs, and religion.
- **Aim of the study:** To assess and compare the knowledge of kidney donation and its determinants among CGs in two tertiary hospitals in South-west Nigeria.

Methodology

- The study was carried out at Kidney Care Centre (KCC) Ondo and Babcock University Teaching Hospital (BUTH), Ilishan-Remo, in South-west Nigeria. This was a cross-sectional descriptive study that took place between July and September 2015.
- A simple random technique was adopted in selecting the participants who were patients' relatives aged 18-60 years seen at the centers during the study period.
- Sample size of 244 was derived using the Kish Leslie equation for descriptive studies.

- Pretesting of the primary survey form was done at the State Specialist Hospital, Ondo.
- The definitive questionnaire comprised of the following sections: participants' socio-demographic features/prior donation experience, knowledge of kidney donation likert scale and a 100-mm visual analogue scale that was used to assess willingness to donate kidney.
- The Likert scales were answered on a five-point scale from 'strongly agree' to 'strongly disagree'. The reliability ratings (*Cronbach's Alpha*) of the knowledge scales was 0.81. Adequate knowledge of kidney donation was defined using a cut off of ≥ 3.0 on likert scale.

Data Analysis

- The data were analysed using SPSS version 20.0 statistical software for windows (IBM, Armonk, New York, United States).
- Fisher's Exact test or Chi-square was used to compare categorized data while Student t test for any significant difference between weighted mean scores. Multiple logistic regression analysis was done to identify factors predicting knowledge of kidney donation. The level of significance of each test was set at $p < 0.05$.

Table 1: Comparison of socio-demographic data and responses of CGs in both BUTH and KCC

VARIABLES	KCC		BUTH		P values
	N	Freq(%)	N	Freq(%)	
<40 years	90	80.4	68	70.8	0.109
40-60 years	22	19.6	28	29.2	
Male	28	24.6	36	33.3	0.149
Female	86	75.4	72	66.7	
LOE	4	3.4	0	0	
None					
Primary	8	6.9	0	0	0.000
Secondary	44	37.9	24	20.7	
Tertiary	60	51.7	92	79.3	

Table 1: Comparison of socio-demographic data and responses of CGs in both BUTH and KCC

VARIABLES		KCC		BUTH		P values
Heard of kidney donation	Yes	80	67.8	116	93.5	0.000
	No	28	23.7	8	6.5	
	Unsure	10	8.5	0	0.0	
Source of Information						
Internet		16	18.6	28	25	0.042
Television		22	25.6	44	39.3	
Health worker		22	25.6	20	17.9	
Others		26	30.2	20	17.9	

RESULTS

244 respondents participated in the study from both KCC and BUTH. Majority of the respondents were below 40 years, married and females. They were also predominantly of Yoruba ethnic group and Christian faith.

The overall proportion of respondents in this study with adequate knowledge of kidney donation is 63.4%.

There were significantly more respondents from BUTH compared to KCC (80% vs46.7%) who had adequate knowledge of kidney donation with a p value of <0.001 .

The mean knowledge scores of BUTH respondents was significantly higher than that of KCC with a p value of <0.001 .

- One-hundred and sixteen (93.5%) of BUTH respondents had heard of kidney donation before compared to 80 (67.8%) of KCCO respondents. This was significant with a p value of <0.001 . The major sources of information on kidney donation among the respondents were television, internet and health workers. Majority of the respondents also believed that kidney donation should be promoted in the society.
- There were more respondents from KCC who had relatives with CKD compared to those from BUTH (40.4% versus 6.5%) and this was significant with a p value of < 0.001 .

- Significant factors associated with adequate knowledge of kidney donation were age <40 years, female gender, post-primary education, high social status and having relatives with CKD.
- Significant factors that determined knowledge of kidney donation on logistic regression were female gender (AOR:3.43, 95%CI:1.25-9.40, $p = 0.02$) and social class (AOR:1.22, 95% CI:0.50-2.95, $p = <0.001$)

Discussion

- This study showed that the overall proportion of CGs with adequate knowledge of kidney donation is 63.4%. There were also significantly more respondents from BUTH compared to KCC (80% vs46.7%) who had adequate knowledge of kidney donation.
- Better knowledge of kidney donation among CGs in BUTH may be due to that fact that they were more educated than their counterparts in KCC. Odusanya et al in a similar study that was done in Southwest, Nigeria reported the same pattern.
- Majority of the respondents from BUTH had higher social class compared to their KCC counterparts which may also explain their better knowledge.

- The most common source of information on kidney donation in both KCC and BUTH was through television which was in agreement with findings from some previous studies.
- This was in contrast to electronic media that was reported to be the most common source of awareness on kidney donation in Northern Nigeria.
- About 80% of the respondents in this study were in support of promotion of kidney donation in Nigeria. This is similar to report from Brazil where 87% of the respondents were in support of organ donation but higher than 57% reported in Pakistan.

- Social status was a significant predictor of knowledge on kidney donation in this study. This is similar to findings from previous studies. Plausible reasons for this, may be that those with high social status were more likely have better education and access to information, enhancing their knowledge on kidney donation.
- Younger age was associated with adequate knowledge of kidney donation in this study which is similar to some previous studies ^{23,24} but at variance to findings from other studies

- There was significant association between willingness to donate kidney and knowledge of kidney donation. The implication of this is that improving the knowledge of the public on kidney donation may lead to increase willingness to donate kidney which is required for sustenance of a successful transplant program.

Conclusion

- Care givers at BUTH had better knowledge of kidney donation compared to those at KCC.
- Gender and social class were significant predictors of knowledge of kidney donation among care givers in this study.
- There was also a positive correlation between knowledge and willingness to donate kidney.

Recommendation

- Efforts should be geared towards providing the public with adequate information on kidney donation in order to improve their knowledge. This may increase willingness to be live kidney donors which is required for sustenance of a successful renal transplantation program.