

Exploring the Choice of Kidney Transplantation as a Treatment Option among Post-Kidney Transplant Recipients at Kenyatta National Hospital

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Abstract: Background: Kidney transplantation (KT) offers better quality of life and the best chance at survival, at relatively lower costs, compared to other kidney replacement therapies. Though its uptake is gaining momentum, little is still known about what informed the choice of KT as a treatment modality among post-kidney transplant recipients. **Objective:** To explore the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital. **Methods:** We conducted an exploratory qualitative study involving fifteen post-kidney transplant recipients at Kenyatta National Hospital's renal unit recruited using purposive sampling method. In-depth interviews using an interview guide were conducted among the study participants. The interviews were audio-recorded and the data transcribed verbatim. The data was analysed using thematic analysis utilizing NVivo v.11 Software. **Results:** The study participants were male and female post-kidney transplant recipients, most of whom were aged 30 years and above, had tertiary education level and were married. Health practitioners' influence on the choice of KT as a treatment option among the participants was through offering information to the participants as to the benefits of and requirements for KT. The dominant personal reason that led to the choice of KT as a treatment option among the participants was desire for better QoL. Help from family and friends, in form of kidney organ donation and financial, psychosocial and informational support was also critical in the participants' choice of KT as a treatment option. **Conclusion:** The choice of KT as a treatment option among the participants was influenced by receipt of information about KT, desire for greater QoL and help from family and friends. **Recommendation:** The hospital's health practitioners are advised to make educating patients about KT an integral component of the care they offer patients with ESKD in the hospital. Families of patients with ESKD should also be allowed to participate actively in important care decisions.

Keywords: chronic kidney disease, end stage kidney disease, kidney transplantation, post-kidney transplant recipients.

1. Introduction

The global burden of chronic kidney disease (CKD) is huge. A recent multinational study by the International Society of Nephrology (ISN), the 2023 ISN-GKHA, showed that,

approximately 850 million people are affected by CKD worldwide, among them, people of every age and race, and that people from disadvantaged populations are at higher risk. The study also revealed that the global burden of kidney failure remains significant due to high treatment costs and extensive impacts of CKD on the health and well-being of people living with the disease. Chronic kidney disease caused an estimated 1.2 million deaths in 2019 worldwide. In addition, 7.6% of all cardiovascular disease (CVD) deaths (about 1.4 million) could be attributed to impaired kidney function. Together, deaths due to CKD or to CKD-attributable CVD accounted for 4.6% of all-cause mortality worldwide in 2019. Most of the burden of CKD is concentrated in low-income index countries with CKD burden being particularly high in Oceania, sub-Saharan Africa (SSA) and Latin America.

There is no cure for CKD and as kidney function deteriorates, the need for kidney replacement therapy (KRT) in the form of hemodialysis (HD), peritoneal dialysis (PD) or kidney transplantation (KT) is inevitable. Of the available KRT modalities, kidney transplantation offers the best survival and quality of life against the lowest costs. However, substantial disparities in access to KT exist worldwide, with significantly lower kidney transplant rates, of <10 per million population in low- and middle-income countries (LMICs), and a large spread of kidney transplant rates, of 20 or more per million population amongst the richer nations mostly in Western Europe, US and Australia. In most developing countries, Kenya included, majority of patients with end stage kidney disease (ESKD) rely on in-hospital HD, denoting low utilization of KT as a mode of treatment among these patients.

In management of patients with ESKD, decisions on choice of treatment modality are important as the various forms of KRT differ in terms of treatment invasiveness as well as mode and length of treatment delivery and in terms of treatment requirements for self-care and/or family involvement and their impact on patient's survival and quality of life. There is evidence that KT improves the immediate and long-term

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patients' health outcomes and hence its adoption among patients diagnosed with ESKD is a matter requiring greater emphasis. Farah et al. suggested that the choice of kidney transplantation among CKD patients is influenced by patient's age, education level and their awareness of and perception towards KT. On their part, Roberts et al. suggested that CKD patients' choice of kidney transplantation as a treatment option is influenced by factors including cost of KT and follow-up care, perceived benefits of KT as well as availability and accessibility of KT services. However, little was known regarding the choice of kidney transplantation as a treatment option among post-kidney transplant recipients in Kenya, hence the need for this study.

2. Methods

Research Paradigm: We adopted a phenomenological paradigm.

Study Design: We adopted a descriptive phenomenological study design.

Study Area: We undertook the study at the Kenyatta National Hospital's (KNH) Renal Unit. KNH is Kenya's largest teaching and referral public hospital. It offers specialized in and out-patient services in a wide range of medical specialties. It also facilitates medical training and research and supports national healthcare planning. The renal unit offers various kidney care health services including dialysis and kidney transplants to both out- and in-patients and has specialized renal care personnel and facilities.

Study Population and Sample: Adult post-kidney transplant recipients who were attending post-kidney transplant follow-up care clinics in the hospital constituted the study population. A study sample of 15 post-kidney transplant recipients was purposively selected on the basis of the principle of data saturation. All post-kidney transplant recipients aged 18 years and above who consented to participate were included. However, post-kidney transplant recipients who were minors and those visiting KNH for other reasons other than attending the post-transplant care were excluded.

Data Management: We collected data using an in-depth

semi-structured interview guide. The interview guide consisted of questions on respondents' socio-demographic characteristics as well as on the influence of medical professionals on the participants' decision to undergo KT as a form of treatment, the participants' own reasons for making that decision, and other people who had an impact on that decision. We pre-tested the study tool at the Moi Teaching and Referral Hospital, Eldoret. The interviews were audio-recorded using a digital voice recorder and interview notes were also taken during the interviews. Qualitative data generated from the interviews were probed using thematic analysis and findings reported verbatim.

Ethical Considerations: The KNH-UoN ERC approved the study (Ref: KNH-ERC/A/417) while permission to undertake the study at KNH renal unit was granted by the hospital's administration. Research permit was issued by NACOSTI. Participants gave informed consent. Obtained data were processed and reported anonymously. Covid-19 safety measures were observed during the interviews and ethical principles of autonomy, anonymity and confidentiality, non-maleficence, beneficence and justice were observed.

3. Results

A. Socio-demographic Characteristics of the Participants

We established that most (73.3%) of the participants were male; 86.7% were aged 30 years and above and majority (86.7%) had tertiary level of education. On occupation status, slightly over half (53.3%) were formally employed while the remaining were either self-employed (26.7%) or unemployed (20%). Most were also married (66.7%).

B. Clinical Characteristics of the Participants

We established that majority (80%) of the participants had received dialysis for more than 2 years prior to the kidney transplant; most (66.7%) learnt of KT in the course of dialysis and all (100%) made the decision to undergo KT as soon as they were counseled about it.

Health practitioners' influence on the participants choice of KT as a treatment option

We explored how the health practitioners impacted the

Table 1
Participants' socio-demographic characteristics

Demographic attributes		Frequency	Percentages
Gender	Male	11	73.3
	Female	4	26.7
	Total	15	100.0
Age	Below 30 years	2	13.3
	30 - 39 years	5	33.3
	40 - 49 years	4	26.7
	50 years and above	4	26.7
	Total	15	100.0
Highest education level	High school	2	13.3
	College/University	13	86.7
	Total	15	100.0
Employment status	Formally employed	8	53.3
	Unemployed	3	20.0
	Self employed	4	26.7
	Total	15	100.0
Marital status	Married	10	66.7
	Single	4	26.7
	Divorced	1	6.6
	Total	15	100.0

Table 2
Clinical characteristics of the participants

		Frequency	Percentages
Length of dialysis before a kidney transplant	≤ 2 years	3	20.0
	More than 2 years	12	80.0
	Total	15	100.0
Point at which KT was discussed with the HCPs	At the point of diagnosis with the kidney disease	5	33.3
	In the course of dialysis	10	66.7
	Total	15	100.0
When they had the kidney transplant	<1 year ago	7	46.6
	1 - 3 years ago	4	26.7
	> 3 years ago	4	26.7
	Total	15	100.0

participants' decision to undergo KT as a treatment option. From the findings, receiving information which signified insights about KT offered to the participants by their health care team emerged as the overarching theme. The participants acknowledged that their decision to undergo KT was largely influenced by the insights and information about KT that they received from their health care team. Two sub-themes emerged under this theme. These were benefits of KT and requirements for KT.

Sub-theme: Benefits of KT

From the findings, the participants indicated that knowledge of the benefits of KT such as a greater quality of life, being able to live more normally and longer life expectancy, as learnt from the health practitioners, influenced their choice of KT as a treatment option as is illustrated in the following verbatim excerpts;

"... as I told you before, he [*referring to his physician*] informed me when you do kidney transplant, you will become a normal person in terms of your strength, diet, your food, you become normal, and you will live a better life just to summarize it." (T10)

"...it is the nurse who told me about kidney transplantation as alternative treatment mode..., she told me the transplant could prolong my life, and I would not be spending a lot of time in hospital as is the case with dialysis." (T11)

"... so he [*meaning the renal nurse*] advised me that the best thing to do is have a kidney transplant. With it, he told me, I would be able to resume work, have improved quality of life and likely live longer. I would also not need to go to hospital as many times as I do now with dialysis ..." (T07)

Sub-theme: Requirements for KT

We established that health practitioners shared information on the requirements for KT such as estimated cost for the procedure, selection basis and need to find a suitable donor which was instrumental in the participants' choice of KT as a treatment option. This is illustrated in the ensuing verbatim excerpts;

"It is the said physician only. I listened to his words, yeah. It is him who took me through the entire process for kidney transplant as it goes. He offered me information on cost estimates for the procedure and told me to start looking for a suitable donor, preferably from my family. He also pointed that I will undergo a number of tests first to check if I am suitable for the procedure; all this information was very helpful." (T04)

"... it is the nurses who used to perform dialysis on me, ... they helped me a lot because they explained everything about the procedure in detail to me including estimated costs for the

procedure, need for an organ donor and various tests performed to know whether one qualified for the transplant." (T14)

"... physicians in one of the local hospitals I attended were quite helpful as they are the ones who counseled me about a kidney transplant, ... they taught me a lot including what was needed for one to qualify for a transplant, that is, a suitable donor, passing preliminary tests and how NHIF could help in meeting part of the costs" (T01)

Personal reasons that led to the participants' choice of KT as a treatment option

We explored the personal reasons that led to the choice of KT as a treatment option among the study participants. From the findings, desire for greater quality of life (QoL) which signified the participants' aspiration to be able to live normally with no or minimal adverse effects attributable to the illness emerged as the overarching theme. Three sub-themes emerged under this theme. These were dissatisfaction with dialysis experience, securing required finances and desire for a normal life.

Sub-theme: Dissatisfaction with dialysis experience

We established that dissatisfaction with dialysis experience was a leading personal factor behind the participants' choice of KT as a treatment option with the participants' acknowledging that their negative experiences with dialysis had prompted them to look into other treatment options, which ultimately led to their choice of KT, as is elucidated in the ensuing verbatim quotes;

"Now, when it comes to dialysis and what most of us go through you do not have even to think of otherwise, you just want to go ahead and see the change. Dialysis drains you physically, you have no energy left, it also severely disrupts your normal routine due to the weekly dialysis sessions. Then add all the logistics for the two days, transport, meals, work days lost, it is just not good, especially if you are a productive person ..." (T05)

"... Considering the two options, dialysis and transplant, I perceived that because I am still young, I thought at least if I got transplant, I would be able to do things by myself, but with dialysis I was literally grounded, then I would save all that time I used with dialysis to do more important things in life and also my health was not improving with dialysis, I was literally very frustrated with dialysis which made me feel ready for the transplant." (T14)

"... physically, in fact, my health had deteriorated greatly when I was under dialysis yet I saw colleagues who had done transplant gaining weight and looking healthy, ... my body, skin also looked awful and was told it was due to effects of dialysis. I did not like it at all, that is how I came to consider

undergoing the transplant.” (T08)

Sub-theme: Securing required finances

We also established that being able to raise enough money for the kidney transplant surgery was an important personal factor that influenced the participants’ decision to undergo KT as a treatment option as is depicted in the ensuing verbatim quotes;

“... the financial aspect is key. Personally, I had set aside some cash from my personal savings, but we had to do a mini fundraising within the family, as what I had was not sufficient for all the transplant expenses. It is only after raising required funds that I can say I felt fully ready for the transplant. It was very tough though, ...” (T03)

“You know, first, you have to look for a donor and then the funds; once you get the required funds, then you are ready for the transplant, yeah, finances are a critical component of the entire process from the patient’s side.” (T04)

“When I had the finances because you cannot have it [referring to the transplant] without having the required finances, yeah, that was in 2016.” (T05)

Sub-theme: Desire for a normal life

Further, we established that the need to resume their normal lives, that is, to be able to engage in day-to-day activities without being restricted by the rigors of dialysis treatment also played an important part in the participants’ choice of KT as a treatment option. Indeed, the participants highlighted the desire to resume their normal lives as being a leading motivation behind their choice to have a kidney transplant, as is demonstrated in the ensuing verbatim quotes;

“... the thing that made me fully decide to undergo the kidney transplant is seeing how badly my normal life had been impaired by the illness despite dialysis treatment. As I was continuing with dialysis, I got to a point where I started having back aches, then my legs were in pain and then I could not even walk. I could struggle a lot to get to work. It is at this point, I realized things were getting out of hand and needed to act to get my normal life back” (T09)

“The urge to go back to normal life, the urge to have time on my hands, in terms of, you know when you go for dialysis, twice a week, two days in a week, there is nothing else you can do that day as it has been slotted for dialysis and dialysis alone,... again considering the fact that I am also a student, the urge to live a normal life, not spend too much time in hospital because I do not like hospitals, I have gone through a lot, I do not like hospitals since childhood, I have not liked hospitals, and also, I love eating, so there is a lot of restriction in terms of eating, on a lighter note though, but yeah, just the urge to go back to normal life and be able to live normally.” (T15)

“I was actually tired of not being able to live normally, so to say, and also an infection here and there, change of catheter, my body movements being affected, feeling feeble almost every time more so after every dialysis session, and you know numerous physical challenges, backaches and stuff like that. I therefore wanted a solution to all these challenges...” (T13)

Other influencers of the participants’ choice of KT as a treatment option

We explored on who else influenced the choice of kidney

transplantation as a treatment option among the study participants. From the findings, help from family and friends which signified how the participants’ family and friends’ financial, physical, psychosocial and informational support influenced the participants’ choice of KT emerged as the overarching theme. Two sub-themes emerged under this theme. These were support (financial, psychosocial and informational) and getting a kidney donor.

Sub-theme: Support (financial, psychosocial and informational)

We established that financial, informational, and/or psychosocial support from family and friends did influence the participants’ choice of KT as a treatment option, as is illustrated in the ensuing verbatim quotes;

“There is nothing better, than having someone, who is supporting you emotionally because sometimes somebody will give you money and they will never call to find out how you are doing, so I am happy my family and a few close friends were there for me and offered me a shoulder to lean on, emotionally, socially and psychologically as well.” (T10)

“... friends and family I would say; they supported me in every possible way, in prayer, visiting me in hospital, words of encouragement, having light moments with jokes here and there, and they also organized regular fundraisings which helped me complement funds given by NHIF for the procedure. So, everything they did was helpful ...” (T08)

“My husband was very supportive, also my parents and even my children. They stood by me, by all means and were there for me before, during and after the transplant, not even my family, even my friends, they truly supported me during and after the transplant, financially and in moral support, and that is why I felt comfortable, I felt courageous and I was ready to go on yes.” (T11)

Sub-theme: Getting a kidney donor

We also established that the participants’ decision to undergo kidney transplantation was also significantly impacted by help from family and friends in the form of kidney organ donation with the participants indicating that they felt ready to undergo KT as soon as they found a suitable donor. This is illustrated in the following verbatim quotes;

“You know, my family, played a great role because they are the ones who produced the donor, yeah. I got the kidney donation from my nephew, yeah. Others were also willing to donate, but the best match was that from the nephew ... you know it is not easy for somebody to just accept to offer you a part of their own, so I am very grateful he did.” (T04)

“I would say my family played a major role. My spouse, my immediate brothers and sisters and my parents were all ready for it. It is also from one member of the family that I got the kidney donation. So, family support, for me, was critical ...” (T07)

“... My children told me mum, let us go for this thing [kidney transplant] because it will help you live a near normal life. I also got my kidney donation from one of the family members, so they have been the very best in terms of support, many had volunteered to become donors if at all we were compatible, yeah.” (T11)

4. Discussion

We established that educating the patients about the benefits of and requirements for KT was one of the ways through which the health practitioners influenced the participants' choice of KT as a treatment option. Results of the study indicated that the participants learned from the medical professionals that KT was linked to a number of advantages, such as improved quality of life, a decreased need for frequent hospital visits, a decrease in long-term care costs, the ability to resume normal activities, and a perceived longer life expectancy. In addition, the primary prerequisites for KT that the participants learned about included the necessity for a suitable donor, pre-transplant clinical examinations of the patient and donor, and the need to get necessary funds for the procedure. It was therefore evident that the participants' decision to undergo KT as their treatment of choice was motivated by the health professionals' role in educating them about the advantages of and requirements for KT. Tucker *et al.* [12] also noted that the decision to undergo KT among patients with ESKD was largely influenced by the counseling these patients received from their health care team including awareness on the benefits associated with KT as a treatment option. Likewise, similar views that health practitioners' shared insights as to the benefits of and prerequisites for KT did contribute to its choice as a treatment option among patients with ESKD were shared by Roberts *et al.* [11] and Chanouzas *et al.* [13].

One of the leading personal reasons that led to the choice of KT as a treatment option among the participants was discontent with their dialysis experiences. The discontent with dialysis was mainly due to its significant disruption on their normal lives, its associated costs, diminished body strength and lost productivity. Indeed, the participants' acknowledged that their choice of KT as a treatment option was due to their negative experiences with dialysis. Similarly, in studies by Moshi [14] and de Jong *et al.* [8] reported discontent with dialysis due to numerous adverse effects on kidney patients' general wellbeing and QoL as being a leading factor influencing choice of KT as a treatment option. Another personal reason that led to the participants' choice of KT as a treatment option was securing required finances. Indeed, being able to raise adequate funds needed for the KT procedure was cited as being a major reason as to why the participants adopted this form of treatment, an observation also evident in Senghor's [16] study which identified procuring adequate funds for the surgery as a core reason behind utilization of KT among patients with ESKD. Similarly, Boima *et al.* [9] also noted that being able to secure monies needed for the KT procedure was a leading factor that significantly influenced adoption of KT as a treatment option among patients with ESKD. A desire for a normal life, including the desire to regain one's physical health and the desire to resume regular activities of daily living without the burden associated with dialysis, also constituted another personal reason that led to the choice of KT as a treatment option among the participants. Browne *et al.* [18] also cited the desire to live life normally free of the rigours and negative health effects of dialysis constituted a major reason why patients with ESKD went for KT. Chanouzas *et al.* [13] also

espoused the view that one of the reasons why patients with ESKD utilize KT as a treatment option is their desire to live normally given that dialysis is highly disruptive of their normal lives. Roberts *et al.* [11] agreed that one of the main factors that influenced patients with ESKD to choose KT as a treatment option was the desire for a normal life particularly away from the adverse effects and disruptions associated with dialysis as a form of treatment.

Help from family and friends constituted the other form of influence which led to the choice of kidney transplantation as a treatment option among the study participants. In this regard, financial, psychosocial and informational support from family and friends was one of the attributes that influenced the choice of KT as a treatment option among the participants. Indeed, from the findings, the participants were categorical that help from family and friends, including financial support (by providing needed funds for the KT procedure or making financial contributions to the cause), psychosocial support (by providing mental, social, and emotional support), and informational support (by sharing insights and experiences about KT) was crucial in helping them choose KT as their preferred course of treatment. Fox [19] did also identify financial help and moral support from family and friends as an enabler to adoption of KT as a treatment option among patients with ESKD. Senghor [16] also argued that given the high costs of KT and the possible lack of or inadequacy of health insurance in many contexts, financial assistance from family and friends was typically important in the choice of KT as a treatment option among patients with ESKD. Further, the participants' choice of KT as a treatment option was also due to receiving kidney organ donation from family and friends. We established that kidney organ donation constituted a crucial aspect of the help from family and friends that influenced the participants' decision to undergo kidney transplantation form of treatment. Similarly, in a study by Senghor [16] it was discovered that family support by providing a suitable donor was a significant driver of post-kidney transplant recipients' choice of KT as a therapy option. Equally, post-kidney transplant recipients in the US were all in agreement that family had a significant influence on their decision to receive a kidney transplant, particularly because they were the source of the donated kidney [18]. It was also noted that family support, in form of kidney organ donation, hastened the adoption of KT as a preferred treatment option among ESKD patients [20].

5. Conclusion

Health professionals' effect on the participants' decision to undergo KT was accomplished through educating the patients about KT with an emphasis on its advantages and prerequisites. Desire for greater quality of life was the main personal reason that influenced the study participants' decision to pursue KT as a form of treatment and was driven by dissatisfaction with the dialysis experience, securing required finances and desire for a normal life. Family and friends were the other persons that influenced the study participants' decision to pursue KT as a form of treatment. This was through offering support (financial, psychosocial, and informational) and being the source of the

donated kidney.

6. Recommendations

Health practitioners at KNH's renal unit need to make educating patients about KT an integral component of the care they offer patients with ESKD.

The health practitioners should also accord due consideration to patients' own experiences and preferences and to the important role of families and friends of patients with ESKD in their care decisions.

Study limitation: Views of health practitioners regarding choice of KT as a treatment option among the patients with ESKD were not evaluated.

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