

**EXPLORING THE CHOICE OF KIDNEY TRANSPLANTATION AS A
TREATMENT OPTION AMONG POST-KIDNEY TRANSPLANT
RECIPIENTS AT KENYATTA NATIONAL HOSPITAL**

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DECLARATION

This thesis is my own personal work and has not been offered in any other institution for examination purposes.

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DEDICATION

To my family - for all the shared memories, love and inspiring words.

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TABLE OF CONTENTS

DECLARATION	ii
CERTIFICATE OF APPROVAL.....	iii
DEDICATION.....	iv
ACKNOWLEDGEMENT	v
TABLE OF CONTENTS.....	vi
LIST OF TABLES	ix
LIST OF FIGURES	x
ABBREVIATIONS AND ACRONYMS	xi
OPERATIONAL DEFINITION OF TERMS	xii
ABSTRACT.....	xiv
CHAPTER ONE: INTRODUCTION.....	1
1.1 Overview.....	1
1.2 Background to the study	1
1.3 Problem statement.....	3
1.4 Study justification	4
1.5 Research questions.....	4
1.6 Study objectives	5
1.6.1 Broad objective	5
1.6.2 Specific objectives	5
1.7 Significance of the study.....	5
CHAPTER TWO: LITERATURE REVIEW	6
2.1 Introduction.....	6
2.2 Health practitioners influence on recipients’ choice of kidney transplantation...6	
2.3 Personal reasons influencing the choice of kidney transplantation	9

2.4 Other influencers affecting recipients' choice of kidney transplantation	14
2.5 Summary of literature reviewed.....	17
2.6 Theoretical framework.....	17
CHAPTER THREE: RESEARCH METHODOLOGY	19
3.1 Introduction.....	19
3.2 Research Paradigm.....	19
3.3 Study design.....	19
3.4 Study area.....	20
3.5 Study population	21
3.6 Inclusion and exclusion criteria	21
3.7 Sample size and sampling technique	21
3.8 Data collection instrument	22
3.9 Participants' recruitment and consenting procedures	22
3.10 Data collection procedures.....	23
3.11 Data analysis	25
3.12 Ethical considerations	26
3.13 Quality assurance	27
3.14 Study limitations	27
3.15 Dissemination plan of study findings	28
3.16 Rigor of the research.....	28
CHAPTER FOUR: RESULTS	30
4.1 Introduction.....	30
4.2 Study participants' characteristics	30
4.3 Themes and subthemes of influencers of kidney transplantation as a treatment choice	31
4.3.1 Receiving information	33

4.3.2 Desire for greater quality of life.....	36
4.3.3 Help from family and friends.....	41
CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS	44
5.1 Introduction.....	44
5.2 Discussion of Findings.....	44
5.2.1 Receiving information	44
5.2.2 Desire for greater quality of life.....	46
5.2.3 Help from family and friends.....	48
5.3 Conclusions.....	50
5.4 Recommendations.....	50
REFERENCES	52
APPENDICES	58
Appendix 1: Participant information form.....	58
Appendix 2: Fomu ya maelezo na idhini	61
Appendix 3: Interview guide	64
Appendix 4: Approval letter from KNH-UoN ethics and research committee	66
Appendix 5: Approval letter from Kenyatta National Hospital.....	68
Appendix 6: Research permit from NACOSTI	69
Appendix 7: Work plan.....	71
Appendix 8: Budget	72
Appendix 9: Similarity Index Report.....	73

LIST OF TABLES

Table 4.1: Socio-demographic characteristics of the participants	30
Table 4.2: Clinical characteristics of the participants	31

LIST OF FIGURES

Figure 3.1: Steps followed in analyzing of the study data.....	25
Figure 4.1: Summary of themes and sub-themes of study findings.....	32

ABBREVIATIONS AND ACRONYMS

CIC	Co-operative Insurance Company
CKD	Chronic Kidney Disease
CVD	Cardiovascular Disease
ESKD	End Stage Kidney Disease
GFR	Glomerular Filtration Rate
HD	Hemodialysis
HICs	High Income Countries
KNH	Kenyatta National Hospital
KRT	Kidney Replacement Therapy
KRA	Kenya Revenue Authority
KT	Kidney Transplantation
KU	Kenyatta University
LMICs	Low- and Middle-Income Countries
NHIF	National Health Insurance Fund
PD	Peritoneal Dialysis
QoL	Quality of Life
SSA	Sub-Saharan Africa
UK	United Kingdom
US	United States
WHO	World Health Organization

OPERATIONAL DEFINITION OF TERMS

Choice - The action of study participants having selected kidney transplantation as their treatment modality.

Chronic kidney disease- Is a health condition characterized by a gradual loss of kidney function over time and marked by kidney damage or glomerular filtration rate (GFR) <60 ml/min/1.73 m² for 3 months or more, irrespective of cause.

End stage kidney disease - Is the advanced stage of chronic kidney disease defined as either a glomerular filtration rate less than 15mL/min/1.73m² or a need for dialysis or kidney transplantation.

Kidney replacement therapy- Refers to treatment for patients with kidney failure which replaces the patient's kidney function and which includes dialysis and kidney transplantation.

Hemodialysis - Is a treatment modality of chronic kidney disease in which wastes, salts and fluids are filtered from the blood of a CKD patient using a dialysis machine.

Kidney transplantation - Is a treatment modality of chronic kidney disease that entails a surgical procedure to implant patients with end stage kidney disease with a donor kidney.

Kidney transplant patients- Refers to adult patients who were attending the post-kidney transplant care clinics at Kenyatta National Hospital during the time of this study.

Health practitioners - Are members of the study participants' renal care team that may have influenced their choice of kidney transplantation as a treatment option.

Personal reasons- Are the individual patients' related attributes that influenced their choice of kidney transplantation as a treatment option.

Other persons- Refers to any other individuals or parties, apart from the health practitioners, that influenced the choice of kidney transplantation as a treatment option among the study participants.

ABSTRACT

Background: Kidney transplantation (KT) offers better quality of life and the best chance at survival compared to other forms of kidney replacement therapy. In comparison, it is also relatively cheaper. 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: This was a qualitative study which utilized exploratory research design. The study was conducted among post-kidney transplant recipients attending post-kidney transplant care clinics at Kenyatta National Hospital's Renal Unit between October and December, 2022. Fifteen (15) post-kidney transplant recipients were recruited as study participants using purposive sampling method. Data was collected through face to face interviews using an interview guide containing open-ended questions based on the study objectives. The study tool included questions on health practitioners' influence, personal reasons and other persons that influenced the study participants' choice of KT as a treatment option. The interviews were transcribed with the data deductively probed using thematic analysis. Ethical considerations observed included participants' informed consent, confidentiality and anonymity in data handling and reporting, voluntary participation and right of withdrawal. Ethical approval for the study was issued by the KNH-UoN ERC [Ref: KNH-ERC/A/417].

Results: Most of the study participants were male (73.3%), aged 30 years and above (86.7%) and had tertiary education (86.7%). The participants' occupations were varied though most were formally employed (53.3%). Close to half had undergone the KT in less than one year ago (46.6%) while the rest (53.4%) underwent KT one or more years ago. All (100%) heard of KT from their renal health care team. In relation to health practitioners' influence on the choice of KT as a treatment option among the study participants, receiving information emerged as the main theme with benefits of KT and requirements for KT as its sub-themes. In relation to the personal reasons that led to the choice of KT as a treatment option among the study participants, desire for better QoL emerged as the main theme with dissatisfaction with dialysis experience, securing required finances and desire for a normal life as its sub-themes. In relation to other persons that influenced the choice of KT as a treatment option among the study participants, help from family and friends emerged as the main theme with support [financial, psychosocial and informational] and kidney organ donation as its sub-themes.

Conclusions: The choice of kidney transplantation as a treatment option among the study participants was influenced by a range of variables including receipt of information about KT, desire for greater QoL and help from family and friends.

Recommendations: Health practitioners at KNH's renal unit should make educating patients about KT an integral component of the care they offer patients with ESKD who attend the hospital for kidney related health care services. The families of patients with ESKD should also be allowed to participate actively in important care decisions.

CHAPTER ONE: INTRODUCTION

1.1 Overview

This chapter outlines the background to the study, problem statement, study justification, research questions and study objectives, research hypothesis and significance of the study.

1.2 Background to the study

End stage kidney disease (ESKD) is defined as irreversible decline in kidney function that is severe enough to be fatal in the absence of dialysis or transplantation (Carney, 2020). It is included under stage 5 of the National Kidney Foundation Kidney Disease Outcomes Quality Initiative classification of chronic kidney disease. It refers to persons with an estimated glomerular filtration rate less than 15 ml per minute per 1.73 m² body surface area, or those requiring dialysis irrespective of glomerular filtration rate (Harris, 2019). Deterioration of kidney function leads to a host of maladaptive changes; such include fluid retention, anemia, disturbances of bone and mineral metabolism, dyslipidemia, and protein-energy malnutrition (Chen, Knicely & Grams, 2019). Often a clinical diagnosis is required as ESKD signs and symptoms are non-specific (Ammirati, 2020). The effects of uremia occasioned by end stage kidney disease can be manifested in all the body systems (Bikbov et al., 2020).

The global burden of CKD is huge. A recent multinational study by the International Society of Nephrology (ISN), the 2023 ISN-GKHA, showed that, from the approximately 850 million people affected by CKD worldwide, people of every age and race are affected, and people from disadvantaged populations are at higher risk (ISN-GKHA, 2023). 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 (WHO, 2020). 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 (WHO, 2020).

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 (Harris, 2019). Of the available KRT modalities, kidney transplantation offers the best survival and quality of life against the lowest costs (Alvarez et al., 2019). 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 (Bruns et al., 2021). 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 (Carney, 2020).

Across the world, there are wide variations in availability of kidney transplantation services. Generally, availability of KT services is higher among the high-income countries (HICs) compared to in LMICs, though there exists huge disparities in their availability even in the HICs (Cockwell & Fisher, 2020). There is no standard cost of KT and costs vary across the countries with lower costs observed in developing countries largely due to governments' subsidization of the treatment compared to in HICs. For instance, in 2020, the average kidney transplant costs (including pre-transplant evaluation, the surgery itself and post-transplant follow up care) were \$442,500 in US; \$10,000 in India and Philippines; \$80,500 in Germany and \$11,000 in South Africa (WHO, 2021). At KNH, kidney transplant costs average Kshs. 300,000 which is significantly lower compared to other regions (KNH renal unit, 2022).

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 (Ya-Fang et al., 2020) and in terms of treatment requirements for self-care and/or family involvement and their impact on patient's survival and quality of life (de Jong et al., 2022). There is evidence that KT improves the immediate and long-term patients' health outcomes and hence its

adoption among patients diagnosed with ESKD is a matter requiring greater emphasis (Boima et al., 2021). Farah et al. (2018) 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. (2019) 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.

1.3 Problem statement

The global incidence and burden of CKD is on the rise hence the growing focus on existing kidney replacement therapies. Evidence from studies performed by Nduati et al. (2022) and Ngigi (2021) at KNH's Renal Unit indicated low uptake of KT as a modality of treatment among patients with advanced CKD attending the hospital. In both studies, the proportion of the hospital's ESKD patients that had had a kidney transplant was below 10%. The two studies also noted that the proportion of ESKD patients at KNH that opted for KT as a treatment option had only marginally improved by 5% over the last 10 years from an annual average of 248 kidney transplants in 2012 to an annual average of 260 kidney transplants in 2021, clearly illustrating low utilization of KT as a treatment option among patients with ESKD attending the hospital.

This study was therefore imperative as insights derived from post-kidney transplant patients regarding reasons for their choice of kidney transplantation as a treatment modality could inform appropriate policies and interventions to aid transition of ESKD patients on HD to kidney transplantation mode of treatment. There had been no empirical reviews focusing on the choice of kidney transplantation as a treatment option from the perspective of post-kidney transplant recipients hospitalized at KNH. It was in view of this that the current study explored the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.

1.4 Study justification

Understanding the choice of kidney transplantation as a modality of treatment among post-kidney transplant recipients at KNH constitutes a critical first step for development of patient awareness programs aimed at educating CKD patients on other treatment options such as HD about KT and particularly on why it is the most favorable treatment option for ESKD. This may in turn help patients still on HD make informed decisions regarding transitioning to kidney transplantation, hence contributing to accelerated attainment of quality kidney health care services for these patients. Further, greater emphasis on acceptability of KT as the treatment modality of choice among patients diagnosed with ESKD is essential, not only for improving patient care outcomes, but also for reducing the huge economic burden on individuals, their families, communities and health systems associated with in-hospital HD. Lastly, identifying and addressing modifiable variables that promote choice of kidney transplantation as the preferred treatment modality among patients with ESKD may inform review of existing KT policies and interventions to ensure they are patient-centered, effective and responsive to the needs of patients with CKD.

1.5 Research questions

1. How did the health practitioners influence the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital?
2. Which personal reasons led to the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital?
3. Which other persons influenced the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital?

1.6 Study objectives

1.6.1 Broad objective

To explore the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.

1.6.2 Specific objectives

1. To examine how health practitioners influenced the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.
2. To describe which personal reasons led to the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.
3. To identify who else influenced the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.

1.7 Significance of the study

The findings from this study may inform policy reforms on institution of appropriate client-tailored strategies and interventions for a better KT service delivery at Kenyatta National Hospital. The findings from this study may also inform patient care practices among the renal medical team at KNH with greater emphasis on shared decision-making regarding choice of kidney transplantation as the preferred treatment modality among patients with ESKD. The findings may also be used to inform renal nursing education with insights generated from this study acting as a basis for formulation of nurses' training tools and guides on how to effectively guide patients diagnosed with ESKD on choice of KT as their preferred mode of treatment. Lastly, the findings from this study may also inform research by acting as a reference point and a basis for further research on the study subject among other scholars and academicians.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature as guided by the study objectives. It contains a review of empirical literature on health practitioners' influence on the choice of KT as a treatment option among the post-kidney transplant recipients. It also reviews personal reasons that led to the choice of KT as the modality of treatment among post-kidney transplant recipients as well as other persons that influenced these patients' choice of KT as a treatment option. The chapter also includes a summary of the reviewed empirical literature and presents the study's theoretical framework. Keywords used in search of relevant studies from academic literature databases such as PubMed, EMBASE, Cochrane Library, CINAHL, UpToDate and Google Scholar include chronic kidney disease, end stage kidney disease, kidney replacement therapy, hemodialysis, kidney transplantation and post-kidney transplant recipients. Twenty-seven (27) studies were reviewed, 15 were from the developed countries in Europe and North America; 7 were from the developing countries in Asia and Middle East and 5 were from the sub-Saharan region, though none had been done in Kenya. This constitutes this study's empirical literature review.

2.2 Health practitioners influence on recipients' choice of kidney transplantation

2.2.1 Educating patients about kidney transplantation

Patients rely heavily on health care providers to provide them information on the disease. When a patient presents with kidney disease, it is often a confusing time and their choice in care may be influenced by their interactions with the health care providers (Onowa et al., 2017). Being offered information regarding kidney transplantation to patients with end stage kidney disease is one of the ways through which health practitioners influence its choice in these patients (Ghanta & Jim, 2016). For instance, in an empirical investigation conducted in US, surveyed post-kidney transplant recipients were unanimous that their choice of KT as the preferred treatment modality was largely influenced by knowledge and information about KT that was shared to them by their health care providers as reported by Tucker et al.

(2019). This could be attributed to the treatment models, which are mainly provider driven.

Similarly, higher odds of choice of KT as a treatment modality were observed among ESKD patients that underwent education about KT compared to those who had not been trained on KT (Boima et al., 2021). This could be attributed to the emphasis on the advantages of KT as a superior method. Likewise, having had discussions with the physicians about kidney transplantation influenced the choice of KT among surveyed ESKD patients as was reported in a study by Tan et al. (2017). In their consultations, physicians are likely to provide a lot of information that may influence the choice of KT (Roberts et al., 2019).

Creation of awareness of an otherwise obscure treatment approach has also been shown to matter when making a choice for KT. Senghor (2019) explored the reasons why dialysis patients chose kidney transplantation as their preferred kidney replacement therapy. Senghor reported that creation of awareness among patients with ESKD about KT by healthcare practitioners significantly influenced these patients' choice of this mode of treatment. Hence, a better-informed position regarding the KT mode of treatment through counselling/training sessions enhanced the choice of this treatment modality among patients with CKD.

The choice of kidney transplantation as a treatment option among patients with ESKD is also influenced by health practitioners' general acknowledgment of KT as a better treatment modality over other kidney replacement therapies. In a study by Rizzolo and Cervantes (2021), participants attributed their choice of KT as a treatment modality to their physician's identification and appreciation of KT as being a better treatment modality over other existing KRTs in cost, ease of management of the health condition and quality of life dimensions. In their study, Shi et al. (2021) also identified health practitioners' general acknowledgement of KT as being the better KRT in terms of patient treatment outcomes as a leading reason behind its choice among surveyed post-kidney transplant recipients. In Takure et al. (2016) study, post-kidney transplant recipients attributed their choice of KT as a treatment option to their healthcare providers general appreciation that KT offered better care outcomes while

compared to other KRTs especially HD. It was thus apparent that health practitioners' views about the suitability of KT over other KRTs was one way in which they influenced the choice of KT as the preferred treatment option among patients with ESKD.

2.2.2 Inspiring confidence in existing kidney transplant services/programs

Health practitioners' belief and confidence in existing kidney transplant services or programs offers another mechanism through which they influence the choice of KT as a treatment option among patients with ESKD. For instance, in studies by Takure et al. (2016) and Boima et al. (2021), health practitioner's low confidence in the existing KT health related systems and programs was found to contribute to low choice of KT as the preferred treatment modality among surveyed ESKD patients. Patients' trust in existing kidney transplant services resulting from confidence shown by their healthcare team is a critical variable in ESKD patients' choice of this treatment mode (Fox, 2021). In a study performed by Bruns et al. (2021), healthcare teams' confidence in the health system was a major determinant in choice of KT as the preferred mode of treatment among surveyed ESKD patients. In an empirical probe by Wu et al. (2017), higher odds of choice of kidney transplantation among ESKD patients were seen in patients whose health care team expressed confidence in existing kidney transplant services/programs.

In low and middle income countries, lower likelihood of choice of KT as the preferred treatment option was also observed among ESKD patients whose health care team expressed reservations over existing kidney transplant services/programs (Nduati et al., 2022). These studies demonstrated that the level of confidence that health practitioners had in the health system inspired trust among patients with ESKD hence increased inclination to choosing KT as their treatment modality. However, in settings where health practitioners lacked confidence in existing kidney transplant services, ESKD patients were likely to be less inclined to choose KT as their preferred mode of treatment (Onowa et al., 2017). Hence, health practitioners' inspired confidence in existing kidney transplant services/programs was another way in which these health

practitioners influenced the choice of KT as a treatment option among patients with ESKD.

2.2.3 Allaying fears and misconceptions about kidney transplantation

Allaying any fears and misconceptions about KT to patients with end stage kidney disease constitutes another way through which health practitioners influence choice of kidney transplantation as a preferred mode of KRT among these patients. Walker et al. (2019) reported that uptake of KT as a treatment option was largely due to provision of the correct information and advice regarding kidney transplantation by healthcare providers. This could have been helpful in allaying any fears and misconceptions that the patients had about KT hence being more open to receive this treatment option. Taylor et al. (2019) also reported that a significant proportion of surveyed ESKD patients attributed their choice of KT as a treatment option to the health practitioners comprehensive addressing of their fears and misconceptions about KT as a KRT. In a study carried out by Chanouzas et al. (2020), ESKD patients indicated that they chose KT as a treatment option because health practitioners had cleared any doubts, fears and misunderstandings that they had about KT. It is evident that when ESKD patients harboured worries and misconceptions about KT are addressed, then there is increased likelihood that KT becomes their treatment option of choice (Tucker et al., 2019). Hence, health practitioners' role in allaying any fears and misconceptions about KT that ESKD patients had was one of the ways through which these healthcare team members influenced the choice of KT as a treatment option among patients with ESKD.

2.3 Personal reasons influencing the choice of kidney transplantation

2.3.1 Age

Based on evidence from prevailing empirical literature, age of patients with ESKD is one of the personal related variables reported as having influenced their choice of kidney transplantation as their preferred mode of treatment. For instance, in an empirical investigation evaluating key reasons behind choice of kidney transplantation as a treatment option among post-kidney transplant recipients, Dahl et

al. (2020) noted that choice of KT as the preferred treatment modality was more prevalent among patients aged below 60 years. Relatively younger age of under 60 years was also cited as part of the reasons for the choice of KT therapy among post-kidney transplant recipients in studies conducted by Farah et al. (2018) and Senghor (2019). Roberts et al. (2019) and Vamos et al. (2019) also noted that odds for having KT as the preferred choice of treatment were significantly higher among younger CKD patients compared to their older counterparts. In these studies, the low choice of KT among older patients with ESKD in these studies was attributed to their frailty and increased incidence of comorbidities with age which in turn increased the risks associated with KT as a treatment modality.

The age of ESKD patients is one of the personal factors that have been documented to influence their preference for kidney transplantation as a form of treatment, according to evidence from the body of empirical literature. For instance, Dahl et al. (2020) found that patients under the age of 60 were more likely to choose kidney transplantation as their preferred treatment option when they conducted an empirical study to assess the main factors influencing this decision. According to research by Farah et al. (2018) and Senghor (2019), post-kidney transplant recipients chose KT therapy for a variety of reasons, including their relatively younger age of less than 60 years. Furthermore, Roberts et al. (2019) and Vamos et al. (2019) reported that younger CKD patients were considerably more likely than older CKD patients to choose KT as their preferred course of treatment. These studies found that older patients with ESKD were less likely to choose KT, which was linked to their fragility and an increase in comorbidities with age, which in turn increased the hazards of KT as a therapeutic option.

2.3.2 Education level

The choice of kidney transplantation as the preferred form of treatment for ESKD patients has also been linked to their degree of education as a major factor. De Jong et al. (2022) revealed that low education level was a major contributing factor to low choice of KT as the preferred KRT among patients with chronic kidney disease in a study investigating patient-related characteristics that influenced the choice of kidney

replacement therapy among these patients. The majority of patients who chose KT had, in comparison to those who did not, comparatively higher educational backgrounds, according to the study. Taylor et al. (2019), who reported noticeably lower adoption levels of KT as a whole, had similar opinions.

Low levels of education were found to positively correlate with less preference for kidney transplantation (KT) as the preferred treatment option among survey participants in an empirical study analyzing barriers to kidney transplantation among patients with ESKD (Venkataraman & Kendrick, 2020). In research conducted by Takure et al. (2016), Boima et al. (2021), and Fox (2021), low education levels (that is, secondary level or lower) were linked to lower adoption rates of KT among surveyed ESKD patients. According to these researches, the poor adoption of KT among ESKD patients with low educational backgrounds was due to their inadequate knowledge of the advantages of KT over other therapy modalities for both short and long-term health outcomes. Patients that are more educated showed a better comprehension and appreciation

2.3.3 Financial capacity

Data obtained from ongoing empirical investigations also suggests that costs continue to be a major factor in individuals with ESKD choosing kidney transplantation as their preferred route of treatment. One of the main causes of ESKD patients' low preference for kidney transplantation, according to a US study is financial limitation, which is shown by inability to pay for the procedure's high cost (Rizzolo & Cervantes, 2021). Similar to those studies, studies by Wu et al. (2017), Farah et al. (2018), and de Jong et al. (2022) did also establish a significant association between patients' financial circumstances and their choice of KT as their treatment modality, with greater odds of choice of KT seen in patients who could afford the cost of the procedure.

2.3.4 Awareness of kidney transplantation

Patients with ESKD who choose KT as a treatment option typically do so for personal reasons relating to their awareness of kidney transplantation, including its advantages

and eligibility requirements. The patients' choice of KT as their method of KRT has been ascribed to their level of awareness about this form of KRT. For instance, patients with average to high awareness of KT had considerably higher likelihood of selecting or adopting KT as their preferred mode of treatment compared to those with low awareness of KT in an American study analyzing the choice of KT among ESKD patients (Venkataraman & Kendrick, 2020). In addition, it was discovered that a lack of understanding of KT as a KRT substantially correlated with its choice.

In addition, among assessed ESKD patients in Nigeria, inadequate awareness of KT as a KRT was observed to substantially associate with its low preference as a form of treatment (Onowa et al., 2017). In research by Mzee et al. (2020) and Kamran (2021), it was discovered that having high understanding and awareness of KT was another major factor in ESKD patients surveyed choosing it as a therapy option. Health literacy programs addressing KT as the preferred form of KRT among these patients in the pre-KT period may be responsible for the increased knowledge about KT that led to its selection as the preferred treatment option among post-kidney transplant recipients.

2.3.5 Perception towards kidney transplantation

The choice of kidney transplantation (KT) as a therapeutic option by ESKD patients has been linked to their perceptions about the procedure. The choice of KT as the preferred mode of treatment was likely to be significantly lower among individuals with poor perception/attitude towards KT compared to those with positive attitude towards KT, according to a study done on factors that influenced the choice of therapy among patients with ESKD. The patients' erroneous perceptions about KT frequently cause the negative attitude (Roberts et al., 2019). In a similar vein, studies by Ilori et al. (2015) and Bruns et al. (2021), conducted in US found that respondents' preference for KT as their preferred treatment modality was positively correlated with respondents' positive perceptions of KT, which can be attributed to their increased knowledge of this modality of treatment.

2.3.6 Perceived improvement on quality of life

The quality of life (QoL) of post-kidney transplant recipients is usually considered to be superior to that of CKD patients receiving alternative types of KRT (Roberts et al., 2019). According to this, empirical research suggests that one of the main reasons ESKD patients choose kidney transplantation as a treatment option is their perception of an improvement in quality of life. For instance, in a US study, people with ESKD who felt that KT led to an enhanced quality of life (QoL) compared to the other kidney replacement therapies were considerably more likely to choose it as their preferred modality of treatment (Ilori et al., 2015).

Similar to this, a study conducted in Ghana indicated that ESKD patients who were questioned chose kidney transplantation as their preferred treatment option because they believed their quality of life had improved after the procedure (Boima et al., 2021). Similarly, French ESKD patients who perceived KT as a KRT with no appreciable improvement in their QoL showed poor preference of KT as a preferred therapy modality (Senghor, 2019). This shows that the decision to have a kidney transplant as the preferable form of treatment may be influenced significantly by how each patient perceives the QoL advantages of KT in contrast to other KRTs like HD. Hence, it may be crucial to raise ESKD patients' knowledge of the QoL advantages of KT early on.

2.3.7 Perceived longer life expectancy

Another important factor in people with ESKD choosing KT as their preferred form of treatment is the perception that they will live longer after receiving a kidney transplant. For instance, in studies by Kalender et al. (2015) and Tan et al. (2016), ESKD patients who believed KT led to an extended/prolonged life expectancy compared to HD chose KT as the preferred mode of treatment (2017). In a study by Ya-Fang et al. (2020), it was shown that ESKD patients were more likely to choose kidney transplantation as their preferred form of treatment when they thought it would improve their life expectancy.

Similar to this, in studies by Roberts et al. (2019), Walker et al. (2019), and Mzee et al., the link of KT with perceived longer life expectancy was one of the main factors driving the choice of KT as the preferred modality of treatment among surveyed ESKD patients (2020). This suggests that the perceptions of ESKD patients regarding the advantages of KT on their life expectancy, particularly the possibility of living longer under KT compared to other KRTs like HD, played a significant role in their decision to choose kidney transplantation as their preferred mode of treatment.

2.4 Other influencers affecting recipients' choice of kidney transplantation

2.4.1 Immediate family

The choice of KRT used by patients with ESKD has been observed to be significantly influenced in a number of contexts by the immediate family of these patients. For instance, in a US study investigating the factors influencing patients with end stage kidney disease to choose kidney transplantation as their preferred mode of treatment, the majority of the surveyed post-kidney transplant recipients identified their immediate kins, including their parents and siblings, as the main proponents of KT as a treatment option (Browne, et al., 2016). Studies by Takure et al. (2016) in Nigeria and Boima et al. (2021) in Ghana showed that post-kidney transplant recipients who were polled all pointed to their immediate families as major influencers of their decision to pick KT as their treatment option. Similarly, ESKD patients immediate relatives were found to play a substantial impact in these patients' decision to choose KT as their preferred mode of treatment in research by Wu et al. (2017) in the UK, Senghor (2019) in France, and Rizzolo and Cervantes (2021) in the US. In each of these studies, post-kidney transplant patients stated that financial, social, emotional, and spiritual support from their families had a significant role in their decision to pursue KT as a form of treatment. Therefore, it is clear that assistance from family was instrumental in the choice taken.

2.4.2 Friends and confidants

Other studies that also identified friends and colleagues as sets of persons that significantly influenced the choice of kidney transplantation among surveyed post-

kidney transplant recipients include those by Farah et al. (2018) in Brunei; Gan Kim Soon et al. (2019) in Malaysia as well as Ghanta and Jim (2016) and Venkataraman and Kendrick (2020) in US. These studies attributed the significant influence of trusted friends, confidants and colleagues on post-kidney transplant recipients' choice of KT as a treatment option to their possible informed counsel regarding benefits of KT to the ESKD patients, their love and care for their friends and their desire to see their friends live a better life. These findings demonstrated that post-kidney transplant recipients' choice of KT was also influenced by their trusted friends and confidants.

Some people who were mentioned, as having an impact on post-kidney transplant recipients' decision to undergo a kidney transplant were their friends and close confidants who had ESKD. The surveyed post-kidney transplant patients described their close friends and trusted confidants as part of the persons that influenced their decision to select kidney transplantation as a treatment modality, according to studies by Genie, Nicolás and Pasini (2020) and Shi et al. (2021). Similar to this, research by Alansari et al. (2017), Alobaidi et al. (2021) in Saudi Arabia, and Boima et al. (2021) in Ghana found that the advice given to these patients by their close and family members greatly affected their decision to have kidney transplantation.

Other studies, such as those by Farah et al. (2018) in Brunei, Gan Kim Soon et al. (2019) in Malaysia, Ghanta and Jim (2016), and Venkataraman and Kendrick (2020) in the US, also identified friends and co-workers as sets of people that significantly influenced the choice of kidney transplantation among surveyed post-kidney transplant recipients. According to these studies, trusted friends, confidants, and co-workers significantly influenced post-kidney transplant recipients' decision to pursue KT as a treatment option. This was attributed to their potential for providing well-informed advice regarding the benefits of KT to ESKD patients, their love and care for their friends, and their desire to see their friends live better lives. These results showed that their trusted friends and confidants also influenced the choice of KT made by post-kidney transplant participants.

2.4.3 Other post-kidney transplant recipients

Some post-kidney transplant recipients have been noted to have an influence on individuals with end stage kidney illness who choose kidney transplantation as their mode of treatment. This is particularly true if ESKD patients using KRTs other than KT believe that their post-kidney transplant recipients have a higher quality of life and less difficulty managing their medical condition. According to studies by Sheikhalipour et al. (2018) and Howell (2019), who surveyed post-kidney transplant recipients and asked them why they chose these treatment modalities, this is what they found. A sizable number of those who received KT after a kidney transplant stated that their decision to use it as a therapeutic option was influenced by their interactions with ESKD patients who were already receiving it. This was in particular in reference to the improvements in quality of life that their counterparts expressed as having in the years following a kidney transplant.

Devitt et al. (2017) and Tucker et al. (2019) found that ESKD patients' kidney transplantation choice is significantly influenced by narrated experiences of improved condition management and quality of life. Furthermore, it was clear those patients with ESKD who had shared favorable experiences with KT as a therapy option had also chosen to use this form of KRT as a treatment option.

2.4.4 Members of support networks

Members of the support networks to which these patients belonged have reportedly had an impact on their decision to pursue kidney transplantation as a form of treatment. Dahl et al. (2020) found that members of the support groups these patients belonged to also played a substantial impact in their decision to adopt KT as their chosen treatment method. The study examined the many reasons that informed people with ESKD to choose KT as a therapy option. This was done by providing information, psychosocial support, and in some cases financial support, which helped ESKD patients choose KT as their mode of treatment.

Farah et al. (2018) and Fox (2021), who both highlighted the importance of support networks in patients with advanced kidney disease choosing KT as a therapy option,

made similar findings. They claimed that the ESKD patients' choice of KT as their mode of treatment was greatly influenced by the emotional, social, psychological, and financial support received from members of the support groups to which they participated. Ghanta and Jim (2016), Mehrotra et al. (2019), and Moshi et al. (2021) as individuals who persuaded patients with ESKD to choose KT as a treatment option also identified members of support networks.

2.5 Summary of literature reviewed

Empirical studies show that personal reasons, such as financial capacity, awareness of kidney transplantation, and perceived benefits, influence the choice of treatment for patients with chronic kidney disease (CKD). Health practitioners and others also influence this choice. Out of 27 studies reviewed, none were conducted in Kenya, highlighting the need for a study on post-kidney transplant recipients at Kenyatta National Hospital. In addition, most of the studies on factors influencing choice of KT as treatment option were done among patients on dialysis hence there was paucity of about the same from the perspectives of post-kidney transplant recipients.

2.6 Theoretical framework

This study was anchored on the Roy Adaptation Model. This theoretical model was developed by Sister Callista Roy in 1970 and subsequently refined over the years. The Roy Adaptation Model presents the person as a holistic adaptive system in constant interaction with the internal and the external environment (Clarke et al., 2011). According to this model, the main task of the human system is to maintain integrity in the face of environmental stimuli. The goal of nursing then is to foster successful adaptation (Naga & Al-Khasib, 2014). The major concepts of the Roy Adaptation Model include: 1) *Adaptation* - This is the goal of nursing and reflects mechanisms that individual persons and groups utilize to positively respond to environmental changes or to create harmonious human-environmental integration; 2) *Person* - perceived as a bio-psycho-social being in constant interaction with a changing environment, and who uses innate and acquired mechanisms to adapt to the environment; 3) *Environment* - acts as the stimuli and represents all conditions,

circumstances, and influences surrounding and affecting the development and behavior of persons and groups whether focal, contextual or residual; 4) *Health* - reflects the outcome of adaptation and is represented by a health-illness continuum. Health is defined as a state and process of being and becoming an integrated and whole that reflects person and environment mutuality; and 5) *Nursing* - whose primary role is promoting successful/effective adaptation and health of persons and/or groups (Roy, 2021).

The key assumptions of the Roy Adaptation Model are that: the person is a bio-psycho-social being meaning the person is in constant interaction with a changing environment; to cope with a changing world, the person uses both innate and acquired mechanisms which are biological, psychological and social in origin; to respond positively to environmental changes, the person must adapt and that the person has 4 modes of adaptation: physiologic needs, self-concept, role function and interdependence (Roy, Whetsell & Frederickson, 2009). The Roy Adaptation Model is commonly used in nursing practice. To use the model in practice, the nurse follows Roy's six-step nursing process: (1) Assess the behaviors manifested from the four adaptive modes (physiological-physical mode, self-concept–group identity mode, role function mode, and interdependence mode). (2). Assess and categorize the stimuli for those behaviors. (3). Make a nursing diagnosis based on the person's adaptive state. (4). Set goals to promote adaptation. (5). Implement interventions aimed at managing stimuli to promote adaptation and (6). Evaluate achievement of adaptive goals. Hence, by manipulating the stimuli rather than the patient, the nurse enhances the interaction of the person with their environment, thereby promoting health (Roy, 2021). The relevance of Roy's Adaptation Model to the current study lay in the application of the theory's concepts in this phenomenological study particularly regarding how a wide range of factors including personal reasons as well interpersonal relationships with others interact to define the lived experiences of patients with ESKD. The theory is also insightful on the study of how these diverse factors interact to influence the choice of KT as a treatment option among these patients.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the research methods that were applied to realize the objectives of the study. The chapter thus outlines the study design, study area, study population, the criteria for inclusion and exclusion, sample size and sampling technique, the instruments of data collection, procedures for data collection, pretesting, the research tool validity and reliability, data analysis, dissemination of study findings, ethical considerations and study limitations.

3.2 Research Paradigm

In this study, the phenomenological paradigm was adopted where qualitative data was collected and thematic analysis done, interpreted and conclusions drawn. The purpose of the phenomenological approach is to illuminate the specific, to identify phenomena through how they are perceived by the actors in a situation (Morley, 2019). In the human sphere this normally translates into gathering ‘deep’ information and perceptions through inductive, qualitative methods such as interviews, discussions and participant observation, and representing it from the perspective of the research participant(s) (Buriro et al., 2021). Phenomenology is concerned with the study of experience from the perspective of the individual, ‘bracketing’ taken-for-granted assumptions and usual ways of perceiving (Prosek&Gibson, 2021). Epistemologically, phenomenological approaches are based in a paradigm of personal knowledge and subjectivity, and emphasize the importance of personal perspective and interpretation. As such they are powerful for understanding subjective experience, gaining insights into people’s motivations and actions, and cutting through the clutter of taken-for-granted assumptions and conventional wisdom (Frechette et al., 2020).

3.3 Study design

This research thesis adopted a descriptive phenomenological study design. Themes derived from the analysis are data driven (that is, grounded in data and the experience of the participants). The analysis begins with a search for meaning and goes on with

different meanings being identified and related to each other (Kothari, 2010). The analysis is aimed to try to understand the complexity of meanings in the data rather than measure their frequency (Kamran, 2021). It involves researcher engaging in the data and the analysis. The analysis contains a search for patterns of meanings being further explored and determining how such patterns can be organized into themes (Howell, 2019). This study design was considered appropriate for the current study as it allowed the researcher to describe the lived experiences of the study participants.

3.4 Study area

Kenyatta National Hospital (KNH) Renal Unit was the site where this research study was conducted. KNH is the oldest and largest teaching and referral hospital in Kenya. It was founded in 1901 with 40 patients with the hospital having grown over the years to its current bed capacity of about 2,000. It is located about four kilometers from the Nairobi city center, off Ngong road on Hospital Road. The facility offers a wide range of specialized in and out-patient health care services. The specialized health-care services provided at KNH include oncology, diabetic, heart surgery, neurosurgery, kidney dialysis and kidney transplant operations, plastic and reconstructive surgery, orthopedic surgery and burns management among others. The hospital also facilitates medical training and research and participates in national healthcare planning.

The KNH Renal Unit is located on the first floor and has a bed capacity of 35. The Renal Unit comprises of units for dialysis and a newly built kidney center for patients' undergoing kidney transplant. Most of the patients treated at the Unit were referrals from Level 5 Hospitals and Level 4 Hospitals as well as from private hospitals outside of Nairobi. Others were referred to the Unit from the general wards of the Kenyatta National Hospital, such as the medical/surgical wards, labor ward, diabetic clinic, Critical care unit and the Accident and Emergency Centre. The key services offered by the Unit were kidney replacement therapy for CKD patients in the form of dialysis services or kidney transplant services. In addition, biopsies, insertions, and removal of various devices on kidney patients were also done at the Unit (KNH Renal Unit, 2022).

Kenyatta National Hospital was selected as the study area as it had a wide catchment area from which it drew its clients. The hospital was also a leading center of care for post-kidney transplant recipients in the country. Further, the reasons for choice of kidney transplantation as a treatment option among post-kidney transplant recipients attending the hospital were unclear; hence KNH's renal unit offered an appropriate setting for exploring the research subject.

3.5 Study population

The study's participants were kidney transplant patients who attended post-transplant follow-up care clinics at the renal unit of Kenyatta National Hospital during the study period.

3.6 Inclusion and exclusion criteria

3.6.1 Inclusion criteria

Adult post-kidney transplant patients who were enrolled in the study were those who gave their informed consent and were present at the out-patient post-kidney transplant care clinic at the renal unit of KNH.

3.6.2 Exclusion criteria

The following were excluded from the study; patients who underwent a kidney transplant but are under the age of 18 because they were minors as well as post-kidney transplant patients who visited KNH during the study period but did not go to the clinics for post-transplant care.

3.7 Sample size and sampling technique

The study participants that made up the study sample were chosen using the purposive sampling approach. The researcher chose the sampling approach because it allowed her to exercise her own discretion in selecting study participants who met the criteria for eligibility and who could contribute valuable data to the investigation.

The notion of data saturation was used to determine the study sample. As a result, the data collection was continued until no fresh information or new insights emerged. Data saturation was deemed to have been attained at this moment (Braun & Clarke 2019).

3.8 Data collection instrument

An interview schedule served as the study's data collection tool (Appendix 3). Based on the research study's goals, it included open-ended questions. The interview questions were divided into three main categories: the influence of medical professionals on study participants' decisions to undergo kidney transplantation as a form of treatment, the participants' own reasons for making that decision, and other people who had an impact on those decisions. To help the researcher learn more in-depth details and develop a deeper grasp of the three primary questions that made up the study's core, a number of prompt questions followed each of the main questions.

3.8.1 Pretesting of the study tool

Three adult kidney transplant recipients at the Moi Teaching and Referral Hospital in Eldoret were interviewed to pre-test the interview guide. The participants in the pre-test shared many of the same traits as the study's intended audience. Similar data gathering techniques to those employed in the main study were replicated in the pre-test. As a result, the pre-test participants gave their informed consent, shared their demographic data, and took part in principal researcher-conducted audio-recorded interviews about the study subject. Pre-testing gave the lead researcher the chance to make changes to the study tool and data collection processes, ensuring that the right questions were asked, that they were clear, and that they did not cause the participant any discomfort.

3.9 Participants' recruitment and consenting procedures

The participants were recruited after receiving ethical permission from the KNH and UoN ethics and research committee [Ref: KNH-ERC/A/417] and the pertinent permit from the head of KNH's renal section for the study. The primary researcher sought

the post-kidney transplant recipients during their weekly post-kidney transplant care clinics at KNH's renal unit to enroll study participants. Before they left the renal unit after finishing their session for the day, the researcher contacted them and gave them details about the study. The briefing did not last for more than 5 minutes.

The researcher provided pertinent information about the study during these brief interactions, underlined the selection criteria, and provided contact information within the renal unit for those who needed further information. In order to participate in the study, post-kidney transplant recipients who matched the inclusion criteria were asked to meet the researcher in a certain room within the Renal Unit. The targeted participants were guided through the study's participation consent paperwork as part of the participation process so they could give their informed consent before participating in the study. After receiving consent, the lead researcher conducted a one-on-one interview with each participant following the interview guide. The participants agreeing not to participate on a specific day owing to scheduling conflicts or time restraints were booked in subsequent clinics. The factors of the consenting environment were the study participants' willingness to participate, respect for their autonomy and dignity, confidentiality of any information submitted, and comfort during the data collection process.

3.10 Data collection procedures

The renal unit of KNH was the location chosen for the administration of the study tool to qualified participants. The space was chosen because it was free from routine use and was suitable for uninterrupted private conversations. It was also conveniently close to the post-kidney transplant recipients' post-transplant care clinic, making access very simple. The primary researcher conducted the interviews. The procedures followed before the interviews started included seeking permission to collect data from the targeted participants from the relevant authorities at Kenyatta National Hospital; briefing targeted participants about the study's aims, their rights, procedures that would be followed during data collection and obtaining each participant's informed consent.

The participants were made aware that the interview would be audio recorded so the researcher may subsequently use the information as reference. The researcher asked the participant for permission to put on the recorder so the interview could start after they had given their informed consent and agreed to participate in the study. The study participants were interviewed face-to-face, one-on-one throughout the administration of the interviews, and they were given enough of time to react to the questions posed as laid forth in the study tool. The primary researcher also took notes throughout the interviews, and the sessions were audio recorded on a tape recorder.

Basic greetings were used to start the interviews, and then the researcher introduced herself and explained to the subject how advanced her investigations were at the time (that is, the educational program the researcher was undertaking and at which university). The researcher next collected information on the demographic details of the participants before settling on asking them to answer the rest of the study tool's questions. Most of the interviews were conducted in English (with Kiswahili language coming up in some of the interactions and discussions between the interviewer and the participants). The interview times ranged from 25 to 42 minutes. Yet, because the interviews were done in plain English, no translators were needed. In addition, the researcher asked participants whose answers were truncated for more information.

Risks were reduced by avoiding as many uncomfortable personal inquiries as possible and by directing participants who experienced distress as a result of taking part in the data collection exercise to a counselor for the necessary assistance. Data triangulation was accomplished by comparing each participant's responses to each question and by comparing the information in the audio files with the field notes the researcher was taking throughout the interviews. According to the sequence in which the individuals participated in the study, the interviews and transcripts were coded (from first to last). The participants were given the chance to contribute any additional information they thought was pertinent after the interview.

3.11 Data analysis

Thematic analysis, using NVivo v.11 Software, was used to examine the information obtained from the study participants' interviews. The researcher confirmed the authenticity, veracity, and accuracy of the study data by using verbatim text quotes from the participants during the interview for explanation and reinforcement of conclusions. The researcher converted the audio recordings made during the in-depth interviews into writing. While listening to the audio recordings, the researcher also went over the transcripts to make sure they appropriately reflected the information provided by the participants. The findings of the study were reported verbatim.

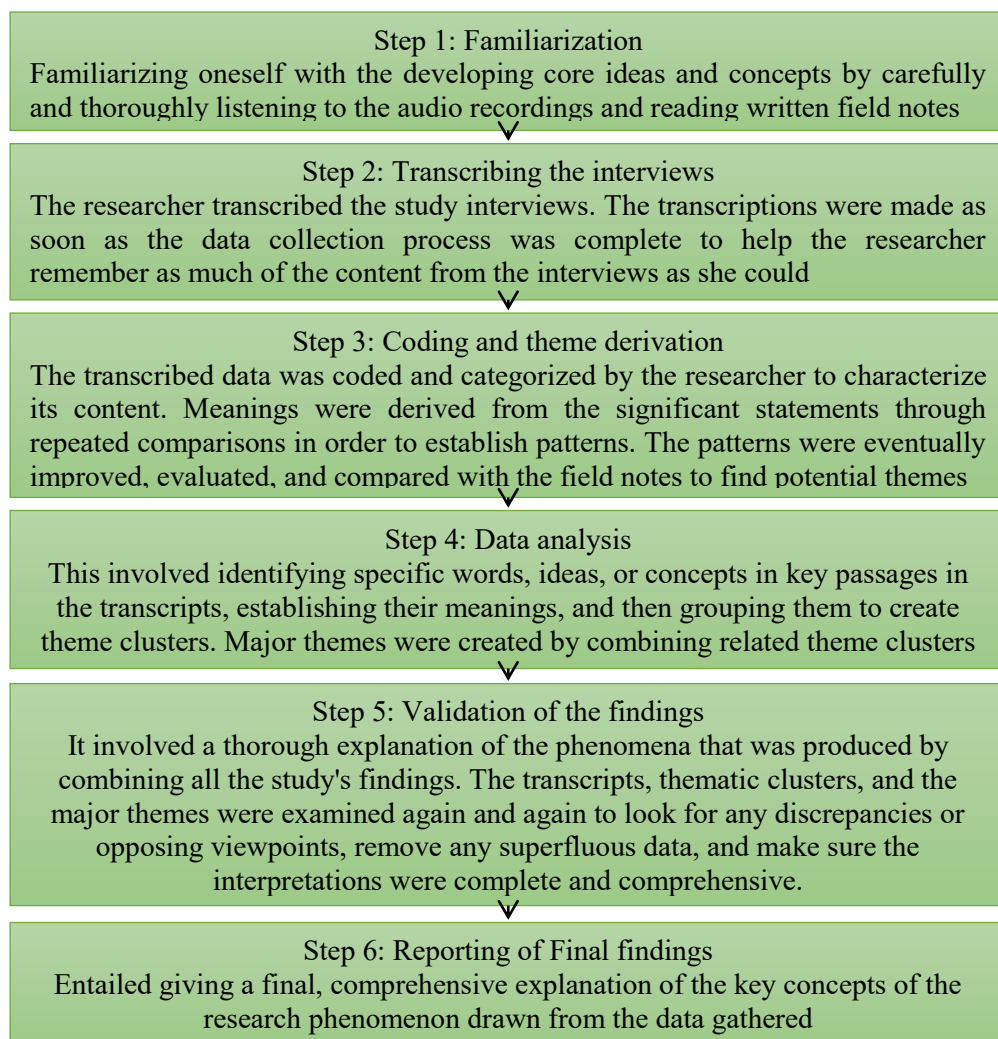


Figure 3.1: Steps followed in analyzing of the study data

Source: Braun and Clarke (2013)

3.12 Ethical considerations

The study observed the following ethical principles;

Ethical approvals: The KNH-UoN ERC gave the study ethical clearance [Ref: KNH-ERC/A/417]. The appropriate KNH authorities also gave permission to gather data from the people who were the target of the study. The study's findings may only be disseminated in accordance with the policies of the university.

Autonomy: The researcher saw to it that the participants were properly informed about the study, their rights, and the anticipated advantages of it. Prior to their involvement in the study, the participants were asked for their informed consent by the researcher. The participants were not offered any inducements or forms of coercion to participate. Participants were allowed to leave the study at any time without being victimized because participation was voluntary.

Anonymity and confidentiality: The researcher made sure that participant identities were kept secret or anonymous. The promise included refraining from using any self-identifying comments or information in addition to protecting their names. In order to protect the participants' anonymity and confidentiality, the analysis and reporting of the study's findings did not include their names or other identifying information.

Non-maleficence: There was no intended danger to the participants' health or any harm as a result of their participation in this study. Nonetheless, if study participants experienced emotional or psychological difficulty as a result of taking part in the study, the researcher sent them to a counselor for the necessary support.

Beneficence: The moral behavior of acting in a way that benefits others while promoting their welfare and safety is known as beneficence. The study's conclusions could be utilized to guide policy changes in the establishment of suitable client-tailored strategies and interventions for better KT service delivery and a better KT experience at Kenyatta National Hospital.

Justice: During the data collection process, the researcher made sure that all subjects received the same therapy. By acknowledging the participants' weaknesses and their contributions to the study, the researcher respected this ideal. Also, the researcher gave each participant's stories and opinions her full attention while treating them all with respect and dignity.

Safety: All audio recordings of interviews, field notes, and transcripts were kept secure and only the lead researcher had access to them in a cabinet.

3.13 Quality assurance

Quality assurance in empirical studies denotes adopted strategies, procedures and policies to provide assurance about the care with which the research study is conducted (Kothari, 2004). It thus refers to the efforts and procedures that a researcher puts in place to ensure the integrity, quality, accuracy and reliability of data collected using adopted methodologies for the particular study (Cooper, S., & Schindler, 2011). Quality assurance in this study was ensured through clear project planning, validation of adopted data collection instrument, full documentation of all study procedures and methods, adoption of measures to mitigate interviewer and responder biases and giving due consideration to appropriate ethical principles.

3.14 Study limitations

Interviewer bias:

The interviewer's questioning style may have an impact on how the participants answer. The researcher avoided asking leading questions and offering personal opinions on the participants' experiences to guard against this limitation.

Responder bias:

Participants could feel pressured to provide answers that are false or misleading. They might feel under pressure to respond in a way that is acceptable to society or their health situation and occasionally the hospital environment might have an impact. The

researcher tried her best to pose questions in an understandable manner and stressed to the participants the value of being honest during the interviews.

3.15 Dissemination plan of study findings

The University of Nairobi's Department of Nursing Sciences, UoN's Library, and Kenyatta National Hospital will all receive copies of the final dissertation report that contains the study's findings. The findings will be shared with participants in the form of a shortened text of the final thesis report and presented in official forums, conferences, and workshops. In addition, the study will be published in an appropriate peer-reviewed publication.

3.16 Rigor of the research

The researcher's attempt to demonstrate brilliance and how they committed to correctness and precision while doing study is known as rigor. The researcher is making an effort to make sure that the results of their study accurately reflect the phenomenon they are researching and add to the body of knowledge. Credibility, reliability, confirmability, and transferability were among the elements of rigor that this study identified.

Credibility: It refers to the truth of the data and its interpretation (Polit & Beck, 2010). This was accomplished by repeatedly examining, challenging, and theoretically interpreting the results to make sure the study had achieved its research objectives.

Dependability: Data dependability is the capacity to hold steady across time. To do this, the researcher kept a thorough audit trail by making sure all phases and steps of the data collection procedure were documented.

Confirmability: The ability of data to accurately reflect the information provided by participants is known as confirmability. In order to confirm the validity of the conclusions, the researcher used participant quotes that were taken directly from the

text. By keeping track of each stage and procedure the researcher took to complete the study, an audit trail was also kept.

Transferability: The degree to which the results of a qualitative study may be applied to groups or circumstances similar to those studied is known as transferability. The participant demographics and the subject area of the study were thoroughly detailed to ensure transferability. In addition, the research procedure and chosen study technique were outlined in detail and followed precisely.

CHAPTER FOUR: RESULTS

4.1 Introduction

This chapter presents information regarding characteristics of the study participants and gives an overview of identified themes and subthemes. An aggregate of 15 post-kidney transplant recipients attending KNH's renal unit for their routine post-kidney transplant care clinics between October and December, 2022 took part. Purposive sampling technique was employed for selection of the participants by the principal researcher and the study sample size was determined on the basis of the principle of data saturation.

4.2 Study participants' characteristics

4.2.1 Socio-demographic characteristics of the participants

The study participants were all adults with most being married and having tertiary education level as is illustrated in Table 4.1.

Table 4.1: Socio-demographic characteristics of the participants

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

4.2.2 Clinical characteristics of the participants

The clinical characteristics of the participants are outlined. From the findings, all the participants reported that they made a decision for transplantation as soon as they were counseled about kidney transplantation as is illustrated in Table 4.2.

Table 4.2: 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

4.3 Themes and subthemes of influencers of kidney transplantation as a treatment choice

This study focused on three key issues relating to the study participants' decision to undergo a kidney transplant as a form of treatment. They included personal factors that contributed to participants' decisions to pursue kidney transplantation as a kind of treatment, influence from medical professionals, and influence from other people on participants' decisions to pursue KT as a form of treatment.

Thematic analysis method was used to analyze the data. According to the analysis, the participants' thoughts and opinions on the factors that affected their decision to pursue a kidney transplant as a form of treatment were divided into three overarching themes, as shown in Figure 4.1. As a result, Figure 4.1 gives a summary of the codes, key themes and sub-themes that were particular to the circumstances of the participants.

The three topics are interconnected and demonstrate how the study participants saw and represented social processes.

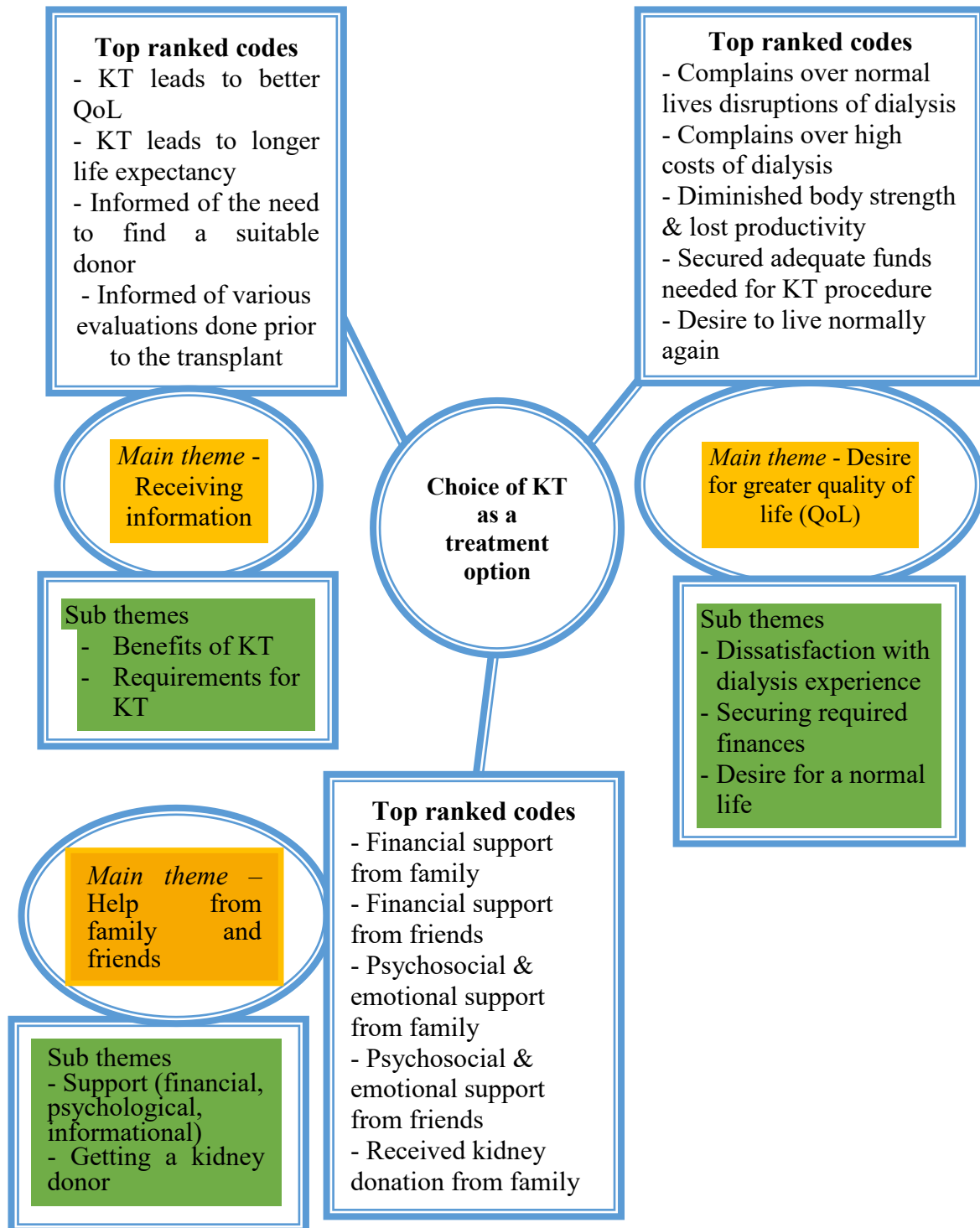


Figure 4.1: Summary of themes and sub-themes of study findings

Each theme is covered in further detail in the three subsections that follow. Verbatim quotes from the interviews are used to show and exemplify each of the themes.

The findings pertaining to the first theme, “receiving information” are presented in Section 4.3.1. By summarizing the information participants were given regarding the advantages of KT and its requirements, the section explains how medical professionals impacted the participants’ decision to undergo kidney transplantation as a type of treatment.

The findings pertaining to the second theme, “desire for greater quality of life” are presented in Section 4.3.2. This subject outlines the individual factors that affected the individuals’ decision to pursue KT as a kind of treatment. The participants discussed their miserable dialysis experience and how this motivated them to pursue kidney transplantation. It also clarifies how the participants’ desire for a regular life and being able to secure needed funds influenced their decision to undergo a kidney transplant as a kind of treatment.

The results for the third theme, “help from family and friends” are presented in Section 4.3.3. This section explains how the participants' family and friends' financial, physical, and emotional support influenced their decision to undergo a kidney transplant as a form of treatment.

4.3.1 Receiving information

The first overarching idea of “receiving information” is explained in this section. The participants found that learning about the advantages of kidney transplantation as a treatment option, such as being able to resume normal life, having a greater quality of life, and having a longer life expectancy compared to dialysis, was helpful to them in their decision to have a kidney transplant. This was revealed during the discussions on how health professionals influenced the participants' choice of KT as a treatment option. The participants' decision to choose KT as a treatment option was also aided by the information supplied on the needs of KT, such as the financial requirements and the examination of the patient and donor for the kidney transplant. So, it was clear from the study participants' interviews that the main way that health professionals

influenced their decision to pursue kidney transplantation as a form of treatment was through availing information about KT to the patients, with a focus on information about the advantages and prerequisites of kidney transplantation. The following subsections provide descriptions of the two sub-themes.

4.3.1.1 Benefits of kidney transplantation

As a technique for medical professionals to influence participants to choose kidney transplantation as a treatment option, the first sub-theme to emerge from the data focused on the benefits of the procedure. A greater quality of life, the ability to live more normally, and a longer life expectancy were found to be the key advantages of kidney transplantation over dialysis, according to the study's findings, which were shared by the participants by their physicians and nurses, as illustrated in the excerpts.

“...You know he [*referring to his physician*] informed me about the 2 options, ... with kidney transplant, he told me you will live longer, you go back to your business, while with dialysis, it is a bit hectic because every 2 days in a week, you are supposed to go for dialysis, and you cannot commit yourself, in any way, during the 2 days ...” (T04)

“... as I told you before, he [*referring to his physician*] advised 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 physicians who were treating me who informed me about kidney transplantation, ... they pointed out that, with kidney transplant, I would be able to go back to my normal life activities like working, ... and that it is less disruptive as one is not required to go to hospital every week as is with dialysis ...” (T06)

“...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)

“... they [*that is, nurses working in the renal unit*] just gave us the basics in terms of kidney transplantation being a better solution than dialysis, ... as it is less disruptive to one’s normal routine life.” (T15)

4.3.1.2 Requirements for kidney transplantation

According to the results, giving participants information on the requirements for KT, such as the financial requirements and patient and donor evaluation for the kidney transplant was useful in influencing their decision to pursue KT as a method of treatment. The participants noted that the health professionals' knowledge of what KT entailed, notably regarding cost estimates for the surgery and selection processes for an acceptable donor, played a significant role in their choice to pursue kidney transplantation as a form of treatment. The following verbatim quotes illustrate this;

“... 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)

“Yes, there was a nurse where I was going for dialysis who would advice me kidney transplant is the best option. First, she treated me well when we met for the first time for my dialysis, ... she also pointed that, it’s true you will undergo dialysis but with time there is so much that needs to be removed from your body, so yourself, you will need to think about the transplant because for sure, with dialysis you will become very weak. We also discussed on the donor and financial perspectives. Her insights were very helpful ...” (T09)

“Yes, there were two nurses, they talked with me and my entire family [my husband, parents, sisters] about kidney transplant ... they informed us about kidney transplant, advised us on how to get needed finances, they encouraged me to have NHIF as it can cover this, this and that. They also kept following up, all the time, and whenever I would get stuck, I would let them know and they helped where they could, until I made it, so they were always good.” (T06)

“... 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)

“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)

“... apart from my personal physician, there were other physicians too, who were very kind, in both diabetic and renal clinics. I surely learnt a lot about kidney transplant from them which gave me the confidence to go for it.” (T12)

4.3.2 Desire for greater quality of life

The second overriding topic, “desire for greater quality of life” is discussed in this section. The participants’ dissatisfaction with the dialysis experience, their ability to raise the necessary funds and their desire for a normal life emerged as the main personal factors that influenced their decision to undergo kidney transplantation as a form of treatment during the discussions on the personal factors that led to this choice. Dissatisfaction with the dialysis process was mostly brought on by the fact that it made them weaker or felt weaker over time, and that it severely disrupted their normal life because they had to go to the hospital for dialysis at least twice a week. Making the decision to undergo the kidney transplant was influenced personally by the participants' success in raising the necessary cash. The participants' need to return to their normal lives - that is, to be able to engage in daily activities without numerous interruptions from medical conditions or to live a life free of the burdens of dialysis - was represented in their desire for a normal existence. The following subsections provide descriptions of the three sub-themes that fall under the theme of a desire for a greater quality of life.

4.3.2.1 Dissatisfaction with the dialysis experience

The participants' first primary personal factor for selecting KT as a treatment option was dissatisfaction with the dialysis experience. According to the results, the majority of participants acknowledged that their negative experiences with dialysis had prompted them to look into other treatment options, which ultimately led to kidney transplantation. The participants expressed dissatisfaction with dialysis because it caused them to weaken over time (diminished body strength), severely interfered with their normal lives because they had to attend at least two sessions in the hospital each

week, and was expensive in terms of overhead costs like transportation, lodging, meals, and lost productivity. The following direct quotes serve as examples for these claims:

“Physically, I think I was ever ready because I was tired of dialysis. I think, I think my body, I don’t know if it is because I am small. Honestly, I used to get tired and then I lost weight, I never had energy, I stopped working, and then I could feel like my life had stagnated, I was not doing anything for myself, ... so I just felt I need to change this and move on with my life because at that position, I think the dialysis thing was just too heavy for me, I could not do anything. I stopped working, like, I was just there anything around me was just stagnated. Yeah, I needed to come out of that shell and move on with my life.” (T03)

“... I had financial difficulties because the dialysis was also costly, and because they did not have enough machines at the KNH, machines were few but patients were many, so sometimes we could go outside to private hospitals and we could get a lot of challenges, ...buying catheters, other delays and what have you, now you can see how costly it were. And, oh, there was also, the transport because you might hire a car to bring you to hospital and possibly get you back after the treatment, ... delays were also a problem because we used to come here early and leave here at 12 midnight or later, sometimes we could even sleep on benches, yeah. It is out of this I felt I am ready for the transplant because they were very many challenges.” (T12)

“... 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)

“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)

“Yes, I would encourage everybody with this condition to go for a kidney transplant because dialysis is not an option, it is just, just like a Panadol, but it is not a permanent solution. ... there are many challenges with dialysis, like not being able to continue working normally, frequent body fatigue and disrupted social life, you know, and lots more” (T06)

“... 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)

“... lots of reasons, first, like I am in construction work, I was not able to work daily, because with dialysis, I had to go for the dialysis sessions twice in a week, so it was difficult for me to continue working. The other thing is persistent body weakness. I felt very weak then, even walking was difficult, hence there was very little that I could do then but after transplant, the body regains strength and you are back to your normal self, ... like me, I had a son who was seven years old then, so there are things he could do at home but I could not be able to run after him then, because I did not have that energy, so you see ...” (T09)

4.3.2.2 Securing required finances

Based on conversations with participants about their personal motivations for selecting KT as a treatment option, the second sub theme - securing required funding-emerged. Being able to raise enough money for the transplant surgery was, for the majority of participants, an important personal factor that influenced their decision to receive a kidney transplant. From the conducted interviews, it became clear that having the financial means to pay for the transplant operation was a crucial requirement that influenced the participants’ decision to pursue KT as a method of treatment. The verbatim excerpts that follow demonstrate this;

“Financially, I looked at the options, and I found that, my cover can be able to take care of me. It’s NHIF, this comprehensive cover for the civil servants. That one I found, it will be able to take care of most of the aspects, let me say NHIF, if it was not for NHIF, I do not think I would have made it. So, making a decision about doing a transplant is one thing but the biggest part, the hardest part of it, is raising the funds needed for the entire procedure.” (T02)

“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)

“...after discussing it with my family, they were open to support me financially to undergo the procedure, so I did not take long to decide, but I would say, I think I was ready instantly once I had the money, ...yes, finances were a critical determinant for me.” (T13)

“... 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)

“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)

“... the financial part was not so much of a challenge for me, being under cover by one of the leading insurers in the country and they were ready to handle the bill. I also got friends who were able to give me something to be able to do all the tests that I needed to do, so, I was actually ready for it, plus I was also informed that NHIF also pays quite a bit of it, quite a bit of the cost. All this greatly helped me get ready for the transplant.” (T07)

4.3.2.3 Desire for a normal life

The third subtheme among the individual factors that influenced the participants' decision to pursue kidney transplantation as a kind of treatment was the desire for a normal life. The participants' urge to return to their regular lives - that is, to be able to engage in day-to-day activities without being restricted by the rigors of dialysis treatment - was mirrored in their desire for a normal existence. According to the results, the majority of the participants said that the need to resume their normal lives, which had been severely disrupted by the dialysis form of therapy, was what led them to choose kidney transplantation as a treatment option. Furthermore, it was clear from the study participants' interviews that one of their personal motivations for selecting kidney transplantation as a treatment option was a wish for a normal life. The verbatim quotes that follow serve as an example of this:

“So, with my condition I had a lot of pain. With polycystic, it is not like the case of diabetic, hypertension, you know, those who go for transplant because of their hypertensive, or they are diabetic. With polycystic, it is a different thing all together because you go through a lot of pain, a lot of pain. In fact most of the times when I had the ruptures, I could not even take my breath, because I was just feeling as if I am putting a lot of pressures to my stomach, my tummy, so I was even trying to hold the breath, not even to have more pain, so I could now see if this will be the remedy whereby the transplant ends all of my pain, I think that is the best life I will ever have lived, whether I will live a day, free of pain, it will be enough for me.” (T05)

“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)

“Psychologically, I was ready, I think, I put so much thought of the life, of going back to a normal life compared to staying in the same place. So, my focus was, my whole mind was like, I need to get out of this, I need to get out of this situation and try to, and go back to being able to do stuff for myself. So the whole thing of not being able to do things for myself was really bothering me, so my focus was to kind of get my normal life back.” (T03)

“Physically, I have seen most of the patients who have gone through the transplant and they are much okay, so I have been encouraged by them. I have seen many, yeah. Psychologically, I was still young for me to be, to see myself as, I was down, so I perceived that at my age I can do the transplant and then my life will be back again to normal.” (T06)

“... 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)

“I think I made the decision [that is, to have the transplant] like immediately because I wanted my life to come back; because it was a matter of life and death. I was told that if you do not do kidney transplant, you will not get well and if you stayed for some years while your body is being dialyzed, it will be weaker, weaker and weaker and then at the end of the day you will be, not able to walk, in fact for some time I was not able to walk, then I could see some people bedridden, they are not walking, and they were still on dialysis, so I worried and said wow, let me get treated soonest, as I did not want to get to that point. ... again with dialysis, I am told not to eat this, not to drink water, not to do this, not to do that, every time you have an infection, you are getting sick, day in day out, so you see all these challenges, yeah” (T12)

“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)

4.3.3 Help from family and friends

Help from family and friends constituted the third overarching topic identified from interviews with study participants about factors that affected their decision to pursue kidney transplantation as a form of treatment. The participants' choice of KT as a treatment option was influenced by the financial, physical, and psychosocial support they got from family and friends, as reflected by the term "help from family and friends". Getting a kidney donor and support (financial, psychological, and informational) emerged as its two subthemes. According to the results, several of the participants' families played two crucial roles in influencing their decision to receive a kidney transplant. They included providing the donated kidney organ and serving as a source of support (financial, physical, informational, spiritual, psychological, emotional and social).

4.3.3.1 Support (financial, psychosocial and informational)

This subtheme highlighted the significant impact that family and friends help in the form of financial, informational, and psychosocial assistance had on the participants' decision to have a kidney transplant as a type of treatment. The majority of participants agreed, according to the results, that financial, informational, and/or psychosocial support from family and friends played a crucial role in their decision to have a kidney transplant. Hence, the results showed how crucial a role family and close friends had in helping the participants decide on KT as a treatment choice.

"... a friend of my dad had undergone it, I also got to talk to him a bit and if you look at him you would not even say he has undergone the kidney transplant, so there was also the close friends I had, or rather I have, I also talked to them about it and they have been of great support, yeah. For me, getting to see somebody who had undergone it and was living a normal life was a very big encouragement." (T15)

"My brother contributed a lot, because at that time immediately I was admitted there, he too came and listened to the physician's suggestion and volunteered himself at that very point, that he was ready to offer me his one kidney and he has been supportive since that time. I also have met a few persons who had had the transplant before and they did encourage me. Now, in my family, indeed, my dad, he has been with me, in a big way, throughout the entire journey, right, financially, in every way I would say yeah. My family also

supported me through encouragement and talking, to make me feel that we were together and it helped a lot. You know, if the family is against, then things can become very difficult though, all have been with me all through.”(T14)

“... my donor, my brother and a lot of friends, especially those that have undergone transplant as well, some had it in India, while others were done here at Kenyatta; they really supported me in all spheres, they would also often pray for me, so I would say through offering me support in many areas and also organizing for the fundraiser, it is them who did it.... you see, like my friends, they formed a WhatsApp group, they added their friends and I also have my friends, they put, in fact, they raised funds through cycling for 100 kilometers. They were very kind to me.” (T08)

“My elder brothers, my family, friends, my younger brother, my mother, also my donor, they all came through for me mainly through financial support. It is my family and friends who fundraised for the funds I needed for the transplant. Of course, they also kept encouraging and comforting me, I truly felt their love and no doubt their support kept me going.” (T12)

“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)

“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)

4.3.3.2 Getting a kidney donor

Another significant factor in how family and friends’ support influenced the participants’ decision to undergo kidney transplantation as a form of treatment was through donating the kidney used in the transplant. According to the results, the majority of participants indicated that they received kidney donations from family members and admitted that finding a qualified/suitable donor was a requirement in

their decision to have a kidney transplant. In fact, the majority of interviewees admitted that they would be prepared to undergo KT as soon as they found a suitable donor. Therefore, among the study participants, the decision of kidney transplantation as a treatment option was significantly impacted by help from family and friends in the form of kidney organ donation. The following highlights the evidence:

“... 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)

“My brother contributed a lot because at that time, immediately I was admitted in that hospital, he came and listened to the physician’s suggestion and volunteered himself at that very point, that he was ready to offer me his one kidney and he did.”(T14)

“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 approached one of my brothers, who I thought was very close to me, and he said it is okay, he told me it is okay, but when we did the blood group test, his was different, so it did not match. At that point, we decided to involve the extended family including my other brother, sister, cousins like that, but nobody volunteered. Ultimately, it is my brother’s wife who came through for me. So, we did all those tests, everything was okay and she donated.” (T02)

“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)

“... it is from one of my close friends that I got the kidney donation. You can imagine, a friend and not my family. So, I feel my friends played a greater role on this one than my family, though both offered great support all through.” (T08)

“Apart from the physician, my family [wife and kids] and my friends, they told me that it is the right choice to do and supported me throughout the entire process. Personally, I got the kidney donation from one of the members within my friends circle.” (T10)

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section highlights discussion of findings, conclusions and recommendations of the study in accordance with the identified themes and sub-themes. The study explored the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.

5.2 Discussion of Findings

5.2.1 Receiving information

Receiving information emerged as the first overarching theme. Information, according to Mehrotra et al. (2019), refers to meaningful messages relating to a particular subject that are shared between persons or entities. Information may also signify thoughts, ideas and insights on a given subject shared or communicated between persons. Information therefore constitutes the basis of communication between any two or more individuals or parties (Devitt et al., 2017). In the context of health care provision, information denotes exchanges of meaningful messages and insights about the patient's health condition and available treatments that are shared between patients and the healthcare team (Bruns et al., 2021). In this study, *receiving information* denotes the kind of advice and insights about kidney transplantation offered to the study participants by the physicians and nurses who cared for them. The study found that by informing the study participants about kidney transplantation, health professionals were able to influence their decision to pursue kidney transplantation as a type of treatment. According to the findings, the health professionals who were recognized as having been involved in informing the study participants about KT were nurses and physicians who worked in kidney care clinics and units inside hospitals. The participants also mentioned that a significant amount of educating them about KT took place during dialysis therapy. In a study conducted in Ghana, Boima et al. (2021) noted that the majority of information about KT among

patients with chronic kidney disease was offered to the patients by their health care team.

One of the most effective methods by which medical professionals influenced the study participants to choose kidney transplantation (KT) as a treatment option was by educating patients about the advantages of the procedure. The study's findings indicate 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. It was consequently obvious that the study participants' decision to choose KT as their treatment modality was motivated by the health professionals' role in educating them about the advantages of kidney transplantation. Interviewed post-kidney transplant recipients in Tucker and colleagues study did concur that knowledge of the advantages associated with KT was instrumental in their decision of choosing KT as a treatment option (Tucker et al., 2019).

The influence of medical professionals on study participants' decisions to choose KT as a treatment option included educating the patients about the requirements for kidney transplantation. The study found that the study participants' decision to undergo kidney transplantation was influenced by the pre-transplant education about the procedure they received from their medical team. The primary prerequisites for KT that the participants learned about included the necessity for a qualified donor, pre-transplant clinical examinations of the patient and donor, and the need to get necessary funding for the procedure. Most of the participants claimed that this understanding served as the impetus for their activity and decision to receive a kidney transplant. Similar to this, studies by Taylor et al. (2019) and Roberts et al. (2019) found that a sizable portion of ESKD patients who were surveyed chose kidney transplantation (KT) as a treatment option due to the health professionals' teachings about the procedure's requirements, such as patient evaluations prior to the transplant, the need for a suitable donor, and the associated costs. In studies by Tucker et al. (2019) and Chanouzas et al. (2020), ESKD patients who were interviewed

acknowledged that, health professionals' insights about the requirements for KT - such as the need for a suitable donor, cost estimates for the procedure, and patient and donor pre transplant evaluations - did influence their decision to pursue KT as a form of treatment.

5.2.2 Desire for greater quality of life

The WHO defines quality of life (QoL) as an individual's perception of their position in life embedded in a cultural, social, and environmental context. It thus represents an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns (WHO, 2020). Quality of life (QOL) is a broad multidimensional concept that usually includes subjective evaluations of both positive and negative aspects of life and is composed of numerous domains, including the physical, psychological, social, family and environmental domains (Landreneau & Ward-Smith, 2019). What makes it challenging to measure is that, although the term "quality of life" has meaning for nearly everyone and every academic discipline, individuals and groups can define it differently (Roberts et al., 2019). Health is one of the important domains of overall quality of life. As a component of QoL, health denotes not only the absence of illness but also being in the right or healthy state of wellbeing in all domains including physiological, psychological, emotional and social (Howell, 2019). In the current study, desire for greater QoL as a theme signified the post-kidney transplant recipients' aspiration to be able to live normally with no or minimal adverse effects attributable to the health condition they suffered from as espoused by Tucker et al. (2019).

The primary driver behind research participants' decision to undergo kidney transplantation as a kind of treatment surfaced under the heading of personal factors as a desire for a greater quality of life. The following discussion will cover some of the subthemes, including discontent with the dialysis experience, securing required money and the desire for a regular life. According to the study's findings, one of the main personal factors that led study participants to choose KT as a treatment option was their discontent with their dialysis experiences. The study's findings show that the

participants said they had become progressively dissatisfied with the dialysis experience because of negative impacts on their health, such as poor energy, chronic weariness, and generalized bodily weakness. The patients also reported that the weekly dialysis sessions severely disturbed their normal life, preventing them from participating in crucial activities like employment, and that the frequent hospital visits had a considerable financial impact. Increased general body weakness, interference with daily activities, dietary restrictions, frequent hospital stays for dialysis, and associated expenditures were also mentioned by Roberts et al. (2019) and Dahl and al. (2020) as contributing factors to surveyed patients' preference for KT over dialysis. According to Moshi (2021) and de Jong et al. (2022), the preference for KT as a treatment option among ESKD patients was largely due to the patients' growing dissatisfaction with the dialysis experience, which included excessive body fatigue, disrupted normal life due to weekly dialysis sessions, dietary restrictions, a decline in health status, and high costs due to frequent hospital visits.

Being able to raise enough money for the KT procedure was the other major personal factor that led survey participants to choose kidney transplantation as a treatment option. The study participants were in agreement that being able to raise or obtain the necessary financial resources for the KT and related processes had a big impact on their decision to pursue KT as a form of treatment. The participants concurred that securing the required funding was a crucial factor in their decision to pursue kidney transplantation as a type of treatment. Senghor (2019) equally noted that one of the key personal characteristics that significantly impacted patients with ESKD to choose KT as a therapy option was the ability to obtain the necessary cash for the KT operation. Similarly, having the financial means to pay for the KT was also established by Boima et al. (2021) as being an important factor in Ghanaian ESKD patients' decisions to undergo kidney transplantation as a form of treatment.

Another significant personal factor that contributed to the study participants' selection of KT as a treatment option was their desire for a regular life. Based on the results, the study participants agreed that their decision to have a kidney transplant as a type of treatment was motivated by a desire for a normal life. This may be linked to their

unfavorable experiences with dialysis, which they generally described as frantic, expensive, and disruptive. It could also be linked to the widespread perception that KT was less disruptive to the recipients' regular activities than dialysis, along with other KT benefits like better quality of life, fewer hospital stays, and the ability to resume regular activities more readily. The need to continue daily activities without needing to visit the hospital frequently and the desire to regain one's physical health were also cited by Chanouzas et al. (2020) and Browne et al. (2016) as factors in patients with ESKD choosing KT as a therapy option. Roberts et al. (2019) agreed that one of the main factors influencing patients with ESKD to choose KT as a treatment option was the desire for a normal life, free of the negative health effects of dialysis, free of the weekly demands of hospital visits for dialysis, and being able to live as normally as possible.

5.2.3 Help from family and friends

Help from family and friends, as a concept, denotes the diverse kinds of support, material or otherwise, that an individual receives from other family members and close friends so as to achieve a certain desired goal (Nduati et al., 2022). The concept therefore denotes the role that family members and friends play in facilitating, supporting and encouraging an individual to achieve a certain life's goal such as achieving better health, coping with an illness, among others (Chanouzas et al., 2020). Help from family and friends is thus a concept widely applied in diverse contexts and cultures to signify the support mainly provided by members of family and close acquaintances based on their beliefs and values. The support offered could be material such as financial support or non-material such as psychosocial support (Boima et al., 2021). In this study, help from family and friends denoted the various forms of support that the post-kidney transplant recipients received from their families and friends which influenced their choice of kidney transplantation as a treatment option.

Help from family and friends, alongside support (financial, psychosocial, and informational) and kidney organ donation, emerged as the major themes on who else affected the study participants' decision to undergo a kidney transplant as a type of treatment. The choice of KT as a treatment option by the study participants was

highly impacted by the financial, emotional, and informational support from family and friends. According to the study participants who were interviewed, 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 decide on KT as their preferred course of treatment.

One participant's comment that it would not have been possible to go through the entire KT experience without the ongoing support and confidence from family and close friends perfectly conveyed this. It became clear, therefore, that the participants' decision to use KT as their treatment method was influenced significantly by the financial, emotional, and informational support from family and friends. Similar results were also observed by Fox (2021) and Senghor (2019), who also made the argument that, given the high costs of KT in many contexts, financial assistance from family and friends was typically important in the choice of KT as a treatment option among CKD patients.

The participants' families' considerable support in the form of organ donation significantly affected their decision to undergo kidney transplantation as a kind of treatment. The choice to undergo a kidney transplant was made by the study participants for a variety of reasons, but one of the most frequently mentioned key factors was the help from family and friends in terms of obtaining a suitable donor. Furthermore, it was clear from this study that organ donation was a crucial aspect of the help from family and friends that influenced the study participants' decision to undergo a kidney transplant as a kind of treatment.

In a study by Senghor (2019), 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. According to Browne et al. (2016) 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 given organ. Organ donation, according to Genie et al. (2020), was a substantial

family support that hastened the adoption of KT as a preferred treatment option by ESKD patients. This result demonstrated how crucial organ donation - specifically, locating a qualified organ donor - is to patients' KT decisions.

5.3 Conclusions

The following inferences were made based on the study's findings: Health professionals' effect on study participants' decision to undergo kidney transplantation as a form of treatment was accomplished through educating the patients about KT with an emphasis on its advantages and prerequisites.

The main personal reasons that influenced the study participants' decision to pursue kidney transplantation as a form of treatment were their dissatisfaction with the dialysis experience, securing required finances and a desire for a normal life, which was interpreted as a desire for greater quality of life.

Family and friends were the other persons that influenced the study participants' decision to pursue KT as a form of treatment. The main ways that help from family and friends influenced the participants' KT decision were through the provision of assistance (financial, psychosocial, and informational) as well as being the source of the donated kidney.

5.4 Recommendations

5.4.1 Recommendations for practice

Health practitioners at KNH's renal unit should make educating patients about KT an integral component of the care they offer patients with ESKD who attend the hospital for kidney related health care services. The health practitioners should also give due consideration to the important role played by families and friends of patients with ESKD during their care provision.

5.4.2 Recommendations for policy

Informing ESKD patients about KT, patient experiences and preferences and the role of family in support of the ESKD patients' treatment decisions should constitute important considerations in hospital policy regarding ESKD patients' choice of treatment options.

5.4.3 Recommendations for research

The current study explored the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital. A wider study on the research subject involving a wider pool of post-kidney transplant recipients in the country is hereby recommended. This would allow a broader comparison and generalization of the study findings.

REFERENCES

- Alansari, H., Almalki, A., Sadagah, L., & Alharthi, M. (2017). Hemodialysis Patients' willingness to undergo kidney transplantation: an observational study. *Transplantation Proceedings*, 49(9), 2025-2030.
- Alobaidi, S., Dwid, N., Salem, N., Mehdawi, F., Kashgary, A., Alhozali, H., ...& Akl, A. (2021). Barriers to kidney transplantation among adults diagnosed with chronic kidney disease in Western Region Saudi Arabia: A Cross-Sectional Study. *Saudi Journal of Kidney Diseases and Transplantation*, 32(1), 49-59.
- Alvarez, G., Chrusch, C., Hulme, T., & Posadas-Calleja, J. G. (2019). Renal replacement therapy: a practical update. *Canadian Journal of Anesthesia/Journal canadien d'anesthésie*, 66(5), 593-604.
- Ammirati, A. L. (2020). Chronic kidney disease. *Revista da Associação Médica Brasileira*, 66, s03-s09.
- Bikbov, B., Purcell, C. A., Levey, A. S., Smith, M., Abdoli, A., Abebe, M., ...& Owolabi, M. O. (2020). Global, regional, and national burden of chronic kidney disease, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 395(10225), 709-733.
- Boima, V., Amissah-Arthur, M. B., Yorke, E., Dey, D., Fiagbe, D., Yawson, A. E., ...& Mate-Kole, C. C. (2021). Determinants of willingness to accept kidney transplantation among chronic kidney disease patients in Ghana. *BMC nephrology*, 22(1), 1-12.
- Browne, T., Amamoo, A., Patzer, R. E., Krisher, J., Well, H., Gander, J., & Pastan, S. O. (2016). Everybody needs a cheerleader to get a kidney transplant: a qualitative study of the patient barriers and facilitators to kidney transplantation in the Southeastern United States. *BMC nephrology*, 17(1), 1-7.
- Bruns, C., Giese, J., Phillippi, D., Moore, D., & Hall, P. (2021). Knowledge and Attitudes Toward Renal Transplantation in Individuals Undergoing Transplant Evaluation. *Progress in Transplantation*, 31(3), 271-278.
- Buriro, A., Ednut, N., & Khatoon, Z. (2021). Philosophical underpinning and phenomenology approach in social science research. *Asia-Pacific-Annual Research Journal of Far East & South East Asia*, 38, 237-254.

- Carney, E. F. (2020). The impact of chronic kidney disease on global health. *Nature Reviews Nephrology*, 16(5), 251-257.
- Chanouzas, D., Ng, K. P., Fallouh, B., & Baharani, J. (2020). What influences patient choice of treatment modality at the pre-dialysis stage?. *Nephrology Dialysis Transplantation*, 27(4), 1542-1547.
- Chen, T. K., Knicely, D. H., & Grams, M. E. (2019). Chronic kidney disease diagnosis and management: a review. *Jama*, 322(13), 1294-1304.
- Clarke, P. N., Barone, S. H., Hanna, D., & Senesac, P. M. (2011). Roy's adaptation model. *Nursing Science Quarterly*, 24(4), 337-344.
- Cockwell, P., & Fisher, L. A. (2020). The global burden of chronic kidney disease. *The Lancet*, 395(10225), 662-664.
- Dahl, K. G., Andersen, M. H., Urstad, K. H., Falk, R. S., Engebretsen, E., & Wahl, A. K. (2020). Identifying core variables associated with health literacy in kidney transplant recipients. *Progress in Transplantation*, 30(1), 38-47.
- de Jong, R., Stel, V. S., Rahmel, A., Murphy, M., Vanholder, R., Massy, Z., & Jager, K. J. (2022). Patient-reported factors influencing the choice of their kidney replacement treatment modality. *Nephrology Dialysis Transplantation*, 9(1), 61-67.
- Devitt, J., Anderson, K., Cunningham, J., Preece, C., Snelling, P., & Cass, A. (2017). Difficult conversations: Australian Indigenous patients' views on kidney transplantation. *BMC nephrology*, 18(1), 1-14.
- Farah, S. S., Alhaji, M. M., Ahmed, D., Alam, S., Johan, N. H., Zulkipli, I. N., ...& Tan, J. (2018). Barriers to kidney transplantation as a choice of renal replacement therapy. *Transplantation Proceedings*, 50(10), 3165-3171.
- Faruque, L. I., Hemmelgarn, B. R., Wiebe, N., Manns, B. J., Ravani, P., Klarenbach, S., ...& Tonelli, M. (2013). Factors associated with initiation of chronic renal replacement therapy for patients with kidney failure. *Clinical Journal of the American Society of Nephrology*, 8(8), 1327-1335.
- Fox, M. (2021). Barriers to kidney transplantation in racial/ethnic minorities. *Clinical Journal of the American Society of Nephrology*, 16(2), 177-178.
- Frechette, J., Bitzas, V., Aubry, M., Kilpatrick, K., & Lavoie-Tremblay, M. (2020). Capturing lived experience: Methodological considerations for interpretive

- phenomenological inquiry. *International Journal of Qualitative Methods*, 19(1), 54-67.
- Gan Kim Soon, P., Lim, S. K., Rampal, S., & Su, T. T. (2019). A qualitative examination of barriers and solutions to renal transplantation in Malaysia: Key-informants' perspective. *Plos one*, 14(8), e0220411.
- Genie, M. G., Nicoló, A., & Pasini, G. (2020). The role of heterogeneity of patients' preferences in kidney transplantation. *Journal of Health Economics*, 72, 102331.
- Ghanta, M., & Jim, B. (2016). Renal transplantation in advanced chronic kidney disease patients. *Medical Clinics*, 100(3), 465-476.
- Howell, M. (2019). *Kidney transplant patients' preferences and priorities for outcomes after transplantation*. Medical PhD Dissertation, University of Sydney, Australia
- Harris, R. E. (2019). *Epidemiology of chronic disease: global perspectives*. Jones & Bartlett Learning.
- Ilori, T. O., Enofe, N., Oommen, A., Odewole, O., Ojo, A., Plantinga, L., ...& McClellan, W. (2015). Factors affecting willingness to receive a kidney transplant among minority patients at an urban safety-net hospital: a cross-sectional survey. *BMC nephrology*, 16(1), 1-9.
- Kamran, F. (2021). Living with a kidney transplant: Perceptions and experiences. *American Journal of Applied Psychology*, 2(1), 5-12.
- Kothari, C. (2010). *Research Methodology: Methods and Techniques* (3rd ed.). New Age International (P) Limited.
- Landreneau, K. J., & Ward-Smith, P. (2019). Patients' perceptions concerning choice among renal replacement therapies: a pilot study. *Nephrology Nursing Journal*, 33(4), 397.
- Mehrotra, R., Marsh, D., Vonesh, E., Peters, V., & Nissenson, A. (2019). Patient education and access of ESKD patients to renal replacement therapies beyond in-center hemodialysis. *Kidney international*, 68(1), 378-390.
- Morley, J. (2019). Phenomenology in nursing studies: New perspectives—Commentary. *International journal of nursing studies*, 93(2), 163-167.

- Moshi, E. S. (2021). Factors associated with uptake of kidney transplantation among patients with end-stage kidney disease in Dar Es Salaam region. *Clinical Nephrology*, 4(1), 57-63.
- Mzee, R. P., Nyongole, O. V., Kivuyo, N. E., Misidai, M. A., Shirima, G. V., Shoo, J., & Mlay, J. J. (2020). Evaluation of knowledge and attitudes towards kidney transplantation in patients undergoing treatment at Muhimbili National Hospital, Tanzania. *World Journal of Biology Pharmacy and Health Sciences*, 3(3), 001-006.
- Naga, B. S. B., & Al-Khasib, E. A. (2014). Roy adaptation model: Application of theoretical framework. *Middle East Journal of Family Medicine*, 12(8), 48-51.
- Nduati, J. M., Githemo, G. K., & Ameyo, .W. (2022). Determinants of Kidney Transplantation Uptake among Chronic Kidney Disease Patients on Haemodialysis at Selected National Referral Hospitals in Kenya. *International Journal of Recent Advances in Multidisciplinary Topics*, 3(8), 99-108.
- Ngigi, J. (2021). *An assessment of activity completion time in a health care delivery program: a five year study of the kidney transplantation program at Kenyatta National Hospital, Nairobi-Kenya*. MBA Dissertation in Healthcare Management, Strathmore University, Nairobi, Kenya.
- Onowa, V. E., Shuaibu, S. I., Ofoha, C. G., Agbo, A. C., Uchendu, D. G., Gimba, Z., ... & Ramyil, V. M. (2017). Barriers to kidney transplantation among patients diagnosed with chronic kidney disease at the Jos university teaching hospital, Nigeria. *Nigerian Journal of Medicine*, 26(3), 255-259.
- Phillips, K. D., & Harris, R. (2014). Roy's adaptation model in nursing practice. *Nursing theory: utilization and application*. 5th ed. United States: Elsevier Mosby, 263-84.
- Pinter, J., Hanson, C. S., Chapman, J. R., Wong, G., Craig, J. C., Schell, J. O., & Tong, A. (2017). Perspectives of older kidney transplant recipients on kidney transplantation. *Clinical Journal of the American Society of Nephrology*, 12(3), 443-453.
- Prosek, E. A., & Gibson, D. M. (2021). Promoting rigorous research by examining lived experiences: A review of four qualitative traditions. *Journal of Counseling & Development*, 99(2), 167-177.

- Rizzolo, K., & Cervantes, L. (2021). Barriers and Solutions to Kidney Transplantation for the Undocumented Latinx Community with Kidney Failure. *Clinical Journal of the American Society of Nephrology*, 16(10), 1587-1589.
- Roberts, G., Chess, J. A., Howells, T., Mc Laughlin, L., Williams, G., Charles, J. M., ...& Noyes, J. (2019). Which factors determine treatment choices in patients with advanced kidney failure? a protocol for a co-productive, mixed methods study. *BMJ open*, 9(10), e031515.
- Robinski, M., Mau, W., Lamprecht, J., Krauth, C., & Girndt, M. (2014). The Choice of Renal Replacement Therapy (CORETH) project: study design and methods. *Clinical Kidney Journal*, 7(6), 575-581.
- Roy, C. H. (2021). Nursing Theory Makes a Practice Turn in the 21st Century. *Aquichan*, 21(1), 1-11.
- Roy, C., Whetsell, M. V., & Frederickson, K. (2009). The Roy adaptation model and research: global perspective. *Nursing science quarterly*, 22(3), 209-211.
- Senghor, A. S. (2019). Reasons for dialysis patients choosing or refusing kidney transplantation as renal replacement therapy: A qualitative study. *Néphrologie&Thérapeutique*, 15(7), 511-516.
- Sheikhalipour, Z., Zamanzadeh, V., Borimnejad, L. E. I. L. I., Valizadeh, L., Shahbazi, M., Zomorodi, A., & Nazari, M. (2018). Recipients' experiences after organ transplantation. *International journal of organ transplantation medicine*, 9(2), 88.
- Shi, Y., Li, W., Duan, F., Pu, S., Peng, H., Ha, M., & Luo, Y. (2021). Factors promoting shared decision-making in renal replacement therapy for patients with end-stage kidney disease: systematic review and qualitative meta-synthesis. *International Urology and Nephrology*, 54(1), 553-574.
- Shi, Y., Li, W., Duan, F., Pu, S., Peng, H., Ha, M., & Luo, Y. (2021). Factors promoting shared decision-making in renal replacement therapy for patients with end-stage kidney disease: systematic review and qualitative meta-synthesis. *International urology and nephrology*, 1-22.
- Tan, Q., Song, T., Jiang, Y., Qiu, Y., Liu, J., Huang, Z., ...& Lin, T. (2017). Factors influencing choice of kidney transplantation among CKD patients in China: A cross-sectional survey. *Medicine (Baltimore)*, 96(18), e6722.

- Takure, A. O., Jinadu, Y. O., Adebayo, S. A., Shittu, O. B., Salako, B. L., & Kadiri, S. (2016). The knowledge, awareness, and acceptability of renal transplantation among patients with end-stage renal disease in Ibadan, Nigeria. *Saudi Journal of Kidney Diseases and Transplantation*, 27(4), 769-773.
- Taylor, D. M., Bradley, J. A., Bradley, C., Draper, H., Dudley, C., Fogarty, D., ...& Roderick, P. (2019). Limited health literacy is associated with reduced access to kidney transplantation. *Kidney international*, 95(5), 1244-1252.
- Tucker, E. L., Smith, A. R., Daskin, M. S., Schapiro, H., Cottrell, S. M., Gendron, E. S., ... &Maass, K. L. (2019). Life and expectations post-kidney transplant: a qualitative analysis of patient responses. *BMC nephrology*, 20(1), 1-10.
- Vamos, E. P., Csepanyi, G., Zambo, M., Molnar, M. Z., Rethelyi, J., Kovacs, A., ...&Mucsi, I. (2019). Socio-demographic factors and patient perceptions are associated with attitudes to kidney transplantation among haemodialysis patients. *Nephrology Dialysis Transplantation*, 24(2), 653-660.
- Venkataraman, S., & Kendrick, J. (2020).Barriers to kidney transplantation in ESKD.*Seminars in Dialysis*, 33(6), 523-532.
- Walker, R. C., Abel, S., Reynolds, A., Palmer, S. C., Walker, C., &Tipene-Leach, D. C. (2019). Experiences, perspectives and values of Indigenous peoples regarding kidney transplantation: systematic review and thematic synthesis of qualitative studies. *International journal for equity in health*, 18(1), 1-12.
- WHO (2020).*Leading causes of death globally*. Geneva: WHO Publications
- Wu, D. A., Robb, M. L., Watson, C. J., Forsythe, J. L., Tomson, C. R., Cairns, J., ... &Oniscu, G. C. (2017). Barriers to living donor kidney transplantation in the United Kingdom: a national observational study. *Nephrology Dialysis Transplantation*, 32(5), 890-900.
- Ya-Fang, H. O., Yu-Chi, C. H. E. N., Huang, C. C., Wen-Yu, H. U., &Kuan-Chia, L. I. N. (2020). The effects of shared decision making on different renal replacement therapy decisions in patients with chronic kidney disease. *Journal of Nursing Research*, 28(4), e109.

APPENDICES

Appendix 1: Participant information form

Title of Study: Exploring the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital

Principal Investigator\and institutional affiliation: Rose Gatwiri Mwebia, University of Nairobi

Supervisors: Dr. Eunice Omondi & Dr. Dorcas Maina, University of Nairobi

Introduction

My name is Rose Gatwiri Mwebia a student at the University of Nairobi pursuing a Masters of Science Degree in Renal Nursing. I am carrying out a research study entitled: exploring the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.

Purpose of the study

The purpose of this study is to explore the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital.

Description of the research

I am requesting your participation in this study by giving your views and opinions about the research subject through the study tool. If you consent to participate, the researcher will request you to respond to a series of questions based on the research objectives.

Confidentiality

All information provided will be handled and processed with utmost confidentiality. All information given herein will only be used for purposes of the research study.

Your name or anything else that may identify you will not appear anywhere in the study.

Voluntary participation

Your participation in this study is voluntary, that is, on your own free will and without any coercion.

Right of withdrawal

Should you feel/wish to terminate your participation in this study, you have the right to do so at any time without facing any consequences/penalties.

Benefit

This research work is for academic purposes only and if you agree to participate, the information that you will provide will be of great importance in informing development of necessary strategies and interventions to promote choice of kidney transplantation as the preferred mode of treatment among patients with ESKD at KNH. However, there will be no monetary gains or any other form of payment for participating.

Risks

There is no any intended health risk or any other harm to you for participating in this study. However, in the event that you suffer emotional or psychological distress for participating in this study, you will be referred to a counselor for appropriate help.

Contacts

For any queries regarding this research study, kindly contact;

Principal researcher		Lead supervisor		Secretary
Rose Gatwiri Mwebia	O	Dr. Eunice Omondi	O	KNH-UoN ERC
Cell: 0723480 720	R	Cell: 0722728 123	R	Telephone: 020-2726300
Email:		Email:		Email:

rosewebia@students. uonbi.ac.ke		eaomondi@uonbi.ac.ke	uonknh_erc@uonbi.ac.ke
			P.O. Box 19676 – 00202 Nairobi

Participant’s consent section

Participant’s Declaration

I have been fully informed about the nature of the study, I know the benefits, and understand that there are no risks involved. I hereby give my consent to participate in this study.

Signature of participant

Date

Researcher’s Declaration

I have fully disclosed all the relevant information concerning this study to the study participant.

Signature of researcher

Date

Appendix 2: Fomu ya maelezo na idhini

Kichwa cha utafiti: Kuchunguza sababu za uchaguzi wa upandikizaji wa figo kama chaguo la matibabu kati ya wapokeaji wa upandikizaji wa figo katika Hospitali Kuu ya Kenyatta

Mtafiti mkuu na uhusiano wa kitaasisi: Rose Gatwiri Mwebia, Chuo Kikuu cha Nairobi

Wasimamizi: Dkt. Eunice Omondi na Dkt. Dorcas Maina, Chuo Kikuu cha Nairobi

Utangulizi

Jina langu ni Rose Gatwiri Mwebia, mwanafunzi katika Chuo Kikuu cha Nairobi anayesoma masomo ya Shahada ya Uzamili ya Sayansi katika Uuguzi wa Figo. Ninafanya utafiti wa ubora kuhusu kuchunguza sababu za uchaguzi wa upandikizaji wa figo kama chaguo la matibabu kati ya wapokeaji wa upandikizaji wa figo katika Hospitali Kuu ya Kenyatta.

Madhumuni ya utafiti

Madhumuni ya utafiti huu ni kuchunguza sababu za uchaguzi wa upandikizaji wa figo kama chaguo la matibabu kati ya wapokeaji wa upandikizaji wa figo katika Hospitali Kuu ya Kenyatta.

Maelezo ya utafiti

Ninaomba kushiriki kwako katika utafiti huu kwa kutoa maoni yako kuhusu somo la utafiti huu kupitia chombo cha utafiti. Ukikubali kushiriki, mtafiti atakuomba kutoa majibu ya msururu wa maswali kulingana na malengo ya utafiti huu kama yalivyopakiriwa kwenye mwongozo wa mahojiano.

Usiri

Taarifa zote utakazotoa zitashughulikiwa na kuchakatwa kwa usiri mkubwa. Taarifa zote zitakazotolewa hapa zitatumika tu kwa madhumuni ya utafiti. Jina lako au kitu

kingine chochote ambacho kinaweza kukutambulisha hakitaonekana popote katika utafiti.

Ushiriki wa hiari

Kushiriki kwako katika utafiti huu ni kwa hiari yako mwenyewe bila shuruti yoyote.

Haki ya kujiandoa

Iwapo utajihisi/utataka kusitisha kushiriki kwako katika utafiti huu, una haki ya kufanya hivyo wakati wowote bila kukabiliwa na adhabu zozote.

Faida

Utafiti huu ni kwa madhumuni ya kitaaluma tu na ikiwa utakubali kushiriki katika utafiti huu, maelezo ambayo utatoa yatakuwa ya umuhimu mkubwa katika kufahamisha na kufanikisha uundaji wa miundo muhimu ya kuboresha chaguzi la upandikizaji wa figo kama chaguo la matibabu kati ya wagonjwa wa figo katika Hospitali Kuu ya Kenyatta. Hata hivyo, hakutakuwa na faida za kifedha au malipo kwa kushiriki.

Hatari

Hakukusudiwi kuwa kutakuwa na hatari yoyote kwako kwa kushiriki katika utafiti huu. Hata hivyo, ikiwa utapata matatizo yoyote ya kihisia na kisaikolojia, basi mtafiti atakuelekeza kwa mshauri wa kisaikolojia ili upate usaidizi ufaao.

Mawasiliano

Kwa maswali yoyote kuhusu utafiti huu, tafadhali wasilianana;

Mtafiti mkuu		Msimamizi mkuu		Katibu
Rose Gatwiri Mwebia	A	Dkt. Eunice Omondi	A	Kamati ya maadili na
	M		M	utafiti ya KNH na UoN
Simu: 0723480 720	A	Simu: 0722728 123	A	Simu: 020-2726300
Baruapepe:		Baruapepe:		Baruapepe:

rosewebia@students.uonbi.ac.ke		eaomondi@uonbi.ac.ke	uonknh_erc@uonbi.ac.ke
			Sanduku la posta 19676 – 00202 Nairobi

Tamko la Mshiriki

Nimefahamishwa kikamilifu kuhusu aina ya utafiti, najua manufaa, na kuelewa kwamba hakuna hatari zinazohusika. Kwahivyo natoa kibali changu kushiriki katika utafiti huu.

Sahihi ya mshiriki Tarehe

Tamko la Mtafiti

Nimeeleza kikamilifu taarifa zote muhimu kuhusu utafiti huu kwa mhojiwa wa utafiti.

Sahihi ya mtafiti Tarehe

Appendix 3: Interview guide

Study title: Exploring the choice of kidney transplantation as a treatment option among post-kidney transplant recipients at Kenyatta National Hospital

Code

Date

Section A: Participants' demographic information

1. What is your gender: Male () Female ()

2. What is your age in completed years?

3. What is your highest education level?

Primary ()	High school ()
College/University ()	No formal education ()

4. What is your employment status?.....

5. What is your marital status?

Single ()	Married ()	Divorced ()
Other (specify)		

Section B: Questions and prompts

Question	Prompts
Q1. Did any health practitioners influence your choice of kidney transplantation as a treatment option in any way?	<ol style="list-style-type: none"> 1. When were you diagnosed with a kidney problem? 2. When were you put on dialysis and for how long did you remain on dialysis before undergoing kidney transplantation? 3. When did you undergo the kidney transplant? 4. At what point was kidney transplantation discussed with you and who discussed it?

	<ol style="list-style-type: none"> 5. What were you told about kidney transplant? 6. What particular information was useful in your decision making? 7. Apart from your physician/ physician, which other health practitioner influenced your decision to undergo kidney transplantation?
Q2. Are there any personal reasons which you would attribute to your decision to undergo kidney transplantation as a treatment option?	<ol style="list-style-type: none"> 1. How long did it take you to make a decision after being told about kidney transplantation? 2. At personal level, what made you feel ready for the procedure? Physically? Psychologically? Financially?
Q3. Are there any other persons who influenced your decision to undergo kidney transplantation as a treatment option?	<ol style="list-style-type: none"> 1. Who else would you say also assisted you to make a decision to undergo kidney transplantation? 2. What did they do or say? 3. How did you meet the cost of transplant
Q4. Is there any other information you would like to add/share regarding your decision to undergo kidney transplantation?	If there is none then I would like to appreciate your participation in this study. If it is fine with you, I will be in touch if there is need to follow up issues for clarification.

Thank you

Appendix 4: Approval letter from KNH-UoN ethics and research committee



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Ref: KNH-ERC/A/417

21st October, 2022

Rose Gatwiri Mwebia
Reg No. H56/37659/2020
Dept of Nursing Sciences
Faculty of Health Sciences
University of Nairobi

Dear Rose,



RESEARCH PROPOSAL: EXPLORING REASONS FOR CHOICE OF KIDNEY TRANSPLANTATION AS TREATMENT OPTION AMONG POST-KIDNEY TRANSPLANT RECIPIENTS AT KENYATTA NATIONAL HOSPITAL - A QUALITATIVE STUDY (P359/04/2022)

This is to inform you that KNH-UoN ERC has reviewed and approved your above research proposal. Your application approval number is **P359/04/2022**. The approval period is 21st October 2022 – 20th October 2023.

This approval is subject to compliance with the following requirements;

- i. Only approved documents including (informed consents, study instruments, MTA) will be used.
- ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by KNH-UoN ERC.
- iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to KNH-UoN ERC 72 hours of notification.
- iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to KNH-UoN ERC within 72 hours.
- v. Clearance for export of biological specimens must be obtained from relevant institutions.
- vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
- vii. Submission of an executive summary report within 90 days upon completion of the study to KNH-UoN ERC.

Protect to discover

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) <https://research-portal.nacosti.go.ke> and also obtain other clearances needed.

Yours sincerely,




DR. BEATRICE K.M. AMUGUNE
SECRETARY, KNH-UoN ERC

- c.c. The Dean, Faculty of Health Sciences, UoN
The Senior Director, CS, KNH
The Assistant Director, Health Information Dept., KNH
The Chairperson, KNH- UoN ERC
The Chair, Dept, of Nursing Sciences, UoN
Supervisors: Dr. Eunice Omondi, Dept of Nursing Sciences UoN
Dr. Dorcas Maina Dept of Nursing Sciences UoN

Appendix 5: Approval letter from Kenyatta National Hospital

KNH/R&P/FORM/01




KENYATTA NATIONAL HOSPITAL
P.O. Box 20723-00202 Nairobi

Tel.: 2726300/2726450/2726565
Research & Programs: Ext. 44705
Fax: 2725272
Email: knhresearch@gmail.com

Study Registration Certificate






1. Name of the Principal Investigator/Researcher
ROSE GATWIRI MWEBIA
2. Email address: rosenwebia@students.uohi.ac.ke Tel No. 0723480720
3. Contact person (if different from PI).....
4. Email address: Tel No.
5. Study Title
EXPLORING REASONS FOR CHOICE OF KIDNEY TRANSPLANTATION AS TREATMENT OPTION AMONG POST-KIDNEY TRANSPLANT RECIPIENTS AT KENYATTA NATIONAL HOSPITAL - A QUANTITATIVE STUDY
6. Department where the study will be conducted RENAL UNIT - KNH
(Please attach copy of Abstract)
7. Endorsed by KNH Head of Department where study will be conducted.
Name: Dr. Wambui, B.M. Signature [Signature] Date 25/10/2022
8. KNH UoN Ethics Research Committee approved study number P359/04/2022
(Please attach copy of ERC approval)
9. I, ROSE GATWIRI MWEBIA commit to submit a report of my study findings to the Department where the study will be conducted and to the Department of Medical Research.
Signature [Signature] Date 21/10/2022
10. Study Registration number (Dept/Number/Year) Renal Unit /199/2022
(To be completed by Medical Research Department)
11. Research and Program Stamp _____

All studies conducted at Kenyatta National Hospital must be registered with the Department of Medical Research and Investigators must commit to share results with the hospital.



25 OCT 2022

Appendix 6: Research permit from NACOSTI

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
Ref No: 208542	Date of Issue: 02/December/2022
RESEARCH LICENSE	
	
This is to Certify that Miss.. Rose Gatwiri Mwebia of University of Nairobi, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: EXPLORING REASONS FOR CHOICE OF KIDNEY TRANSPLANTATION AS TREATMENT OPTION AMONG POST-KIDNEY TRANSPLANT RECIPIENTS AT KENYATTA NATIONAL HOSPITAL-A QUALITATIVE STUDY for the period ending : 02/December/2023.	
License No: NACOSTI/P/22/21632	
208542 Applicant Identification Number	 Director General NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
	Verification QR Code 
NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.	
See overleaf for conditions	

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
 - i. Endanger national security
 - ii. Adversely affect the lives of Kenyans
 - iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
 - iv. Result in exploitation of intellectual property rights of communities in Kenya
 - v. Adversely affect the environment
 - vi. Adversely affect the rights of communities
 - vii. Endanger public safety and national cohesion
 - viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

National Commission for Science, Technology and
Innovation(NACOSTI),
Off Waiyaki Way, Upper Kabete,
P. O. Box 30623 - 00100 Nairobi, KENYA
Telephone: 020 4007000, 0713788787, 0735404245
E-mail: dg@nacosti.go.ke
Website: www.nacosti.go.ke

Appendix 7: Work plan

Activity	2022					2023				
	Apr	May- Sep	Oct	Nov	Dec	Jan	Feb - May	Jun - Aug	Sep	Oct
Development of the concept										
Proposal writing and presentation										
Submitting the proposal to ERC										
Pretesting the study tool										
Collecting the study data										
Data analysis & report writing										
Thesis corrections										
Defense of the project										
Final thesis submission										

Appendix 8: Budget

Item	Quantity	Unit Cost	Total Cost
Assorted stationeries	Relevant materials – 60	60 @ 100	Ksh. 6,000
Questionnaires	91	@Ksh.5 per page x 6 pages	Ksh. 2,730
Proposal writing			
Fair printing	3 copies, 45pgs	@Ksh. (5per page x 45)3	Ksh. 675
Final printing	2 copies, 45pgs	@ Ksh. (5 per page x 45)2	Ksh. 450
Final photocopy	4 copies, 45pgs	@Ksh. (5 per page x 45)4	Ksh. 900
Binding	6 copies	@ Ksh. (1,000 per copy)	Ksh. 6,000
Tape recorder	1	@ Ksh. 5,000	Ksh. 5,000
Project Writing			
Statistician's charge	1		Ksh.60,000
Fair printing	2 copies, 100 pgs	@Ksh. (5 per page x100)2	Ksh. 1,000
Final printing	4 copies, 100 pgs	@Ksh. (5 per page x100)4	Ksh. 2,000
Binding	3 copies	@ Ksh. (1000 per copy)3	Ksh. 3,000
Piloting of the study tool	3 interviews Facilitation cost	@ 2,000	Ksh. 6,000
Transport cost	1 person for 24 days	@ Ksh 500 x 24 days	Ksh. 12,000
Meals	@500 per day	@500 x 24 days	Ksh. 12,000
Project results dissemination			
Journal publishing		@Ksh. 35,000	Ksh. 35,000
		Sub-total	Ksh. 152,755
Contingencies	@10%		Ksh. 15,275.5
		Grand Total	Ksh. 168,030.5

Appendix 9: Similarity Index Report

Exploring The Choice Of Kidney Transplantation As A Treatment Option Among Post-Kidney Transplant Recipients At Kenyatta National Hospital

ORIGINALITY REPORT

12%	11%	1%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	erepository.uonbi.ac.ke Internet Source	6%
2	Submitted to Kenyatta University Student Paper	1%
3	www.ncbi.nlm.nih.gov Internet Source	1%
4	emedicine.medscape.com Internet Source	1%
5	Submitted to Laureate Higher Education Group Student Paper	<1%
6	www.coursehero.com Internet Source	<1%
7	Submitted to Mount Kenya University Student Paper	<1%
8	www.hindawi.com Internet Source	<1%

9	Submitted to Midlands State University Student Paper	<1 %
10	Submitted to UNIVERSITY OF LUSAKA Student Paper	<1 %
11	ugspace.ug.edu.gh Internet Source	<1 %
12	www.wjgnet.com Internet Source	<1 %
13	www.tandfonline.com Internet Source	<1 %
14	dos.chuka.ac.ke Internet Source	<1 %
15	epidemiologistmwangi254.blogspot.com Internet Source	<1 %
16	Iris deRuiter, Guillaume Leseigneur, Antonia Rowlinson, Ralph A M J Wijers et al. "Limits on long-time-scale radio transients at 150MHz using the TGSS ADR1 and LoTSS DR2 catalogues", Monthly Notices of the Royal Astronomical Society, 2021 Publication	<1 %
17	ir.jkuat.ac.ke Internet Source	<1 %
18	nadre.ethernet.edu.et Internet Source	<1 %