

UNIVERSITY OF CAPE COAST

CONSERVATIVE MANAGEMENT OF END-STAGE KIDNEY DISEASE
AT CAPE COAST TEACHING HOSPITAL

LETICIA SERWAA BONSU

2019

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BY

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Thesis submitted to the Department of Nursing and Midwifery, College of Health and Allied Sciences, University of Cape Coast, in partial fulfilment of the requirements for the award of Master of Philosophy degree in Nursing

NOVEMBER 2019

DECLARATION

Candidate's Declaration

I hereby declare that this thesis is the result of my own original research work and that no part of it has been presented for another degree in this university or elsewhere.

Candidate's Signature Date:

Name: Leticia Serwaa Bonsu

Supervisors' Declaration

We hereby declare that the preparation and presentation of the thesis were supervised in accordance with the guidelines on supervision of thesis laid down by the University of Cape Coast.

Principal Supervisor's Signature Date:

Name: Dr. Jerry Paul .K. Ninnoni

Co-Supervisor's Signature Date:

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ABSTRACT

More often, patients have no option but to begin dialysis when their chronic kidney disease progresses. The purpose of this study was to examine nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease at Cape Coast Teaching Hospital in Ghana. The study adopted mixed methods. A census was used to select nurses, while purposive sampling technique was used to select doctors and patients for the qualitative arm of the study. Interviews were conducted with doctors and patients, whereas questionnaires were administered to nurses. Overall, 146 nurses responded to the questionnaire, while five doctors and 18 patients were interviewed to reach saturation. The quantitative data collected from the questionnaire was analysed using mean, standard deviation and one-sample t-test of IBM SPSS for windows, version 23; while the data collected from the semi-structured interview guide were organised and analysed thematically. The study found that patients with end-stage kidney disease were saddled with unhappiness and sadness, resulting from their current condition. While some of the patients declared that the dialysis procedure was time consuming, and painful and tiresome; another group of patients stated that the dialysis procedure was user-friendly. Moreover, unlike renal replacement therapy which functions as a kidney, conservative management does not: it only reduces that speed at which the kidney disease progresses. Also, conservative management does not help a patient who is at stage 5 of the kidney disease. Finally, the lack of trained nephrology nurses and doctors in the hospital was a barrier to the practice of conservative management in patients with end-stage kidney disease.

KEY WORDS

Conservative management

Dialysis

End-stage kidney disease

Nephrology

Patients

ACKNOWLEDGMENTS

I express much gratitude to my supervisors, namely Dr. Jerry Paul. K. Ninnoni (Principal Supervisor) and Dr. Jacob Setorglo (Co-Supervisor), for their incredible assistance and encouragement which has seen me in fulfilling my academic dream. I am also thankful to Madam Dzigbordi Kpekpetse and Mr. Samuel Koomson for their contribution to this study. Special appreciation goes to all the authors that I have cited in this study. Finally, I wish to express my sincere gratitude to my father, Mr. Isaac Agyenim Boateng and Madam Joyce Donkor for their motivation and support.

DEDICATION

To my husband, Mr. David Kwarteng and my children, David Tremendous
Agyenim Kwarteng and Caleb Obrempong Afriyie Kwarteng

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LIST OF ACRONYMS

ACP	Advance Care Planning
CCA	Constant Comparison Analyses
CCM	Chronic Care Model
CCTH	Cape Coast Teaching Hospital
CKD	Chronic Kidney Disease
CKM	Conservative Kidney Management
CM	Conservative Management
ELISA	Enzyme Linked Immunosorbent Assay
EPO	Erythropoietin
ESKD	End-Stage Kidney Disease
ESRD	End-Stage Renal Disease
M	Mean
PKD	Polycystic Kidney Disease
RRT	Renal Replacement Therapy
RRT	Renal Replacement Therapy
SD	Standard Deviation
UAKD	Uromodulin Associated Kidney Disease
UCC	University of Cape Coast
UMOD	Uromodolin

CHAPTER ONE

INTRODUCTION

Considering that the prevalence of diabetes and high blood pressure is progressively increasing in resource-poor countries, it could be assumed that chronic kidney disease burden is higher in regions, such as Sub-Saharan Africa (Perico & Remuzzi, 2014). Few epidemiological studies of the incidence, prevalence, and cause of chronic kidney diseases are available (United Nations General Assembly, 2013; World Health Organisation, 2013). Other authors have reported that most patients with end-stage kidney disease who start dialysis in Sub-Saharan Africa discontinue treatment and die due to insufficient infrastructure, catastrophic out-of-pocket costs (Ashuntantang et al., 2017), inadequate experienced workforce, limited diagnostic facilities, and low access to treatment (Okpechi, 2017).

Therefore, there is the need for a study that provides evidence about conservative management to support shared decision making for people with chronic kidney failure in the sub-region. The present study sought to examine nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease at Cape Coast Teaching Hospital in Ghana, dwelling on the Chronic Care Model.

Background to the Study

The rise in the rate of renal replacement therapy (RRT) has been higher among elderly people, many of whom are frail and have multiple co-morbid conditions (Da Silva-Gane et al., 2012). Dialysis has been associated with a substantial decline in functional status among nursing home residents (O'Connor & Kumar, 2012), and RRT may not be beneficial in the context of

increasing frailty and loss of independence (van de Luitgaarden et al., 2012). For patients with relatively short expected gain of survival, dialysis may not be the best option (van de Luitgaarden et al., 2013). As such, conservative kidney management (CKM), which is a conservative palliative care, not just to postpone renal replacement therapy (van de Luitgaarden et al., 2013), is a recommended alternative.

Combs and Davison (2015) defines conservative kidney management as a planned, comprehensive, patient-centred care for patients with ESRD, which integrates palliative care principles [such as advance care planning (ACP), completion of advance directives or physician orders for life sustaining treatments, aggressive symptom management, and psychosocial and family support] with interventions to delay progression of chronic kidney disease (CKD) and minimize complications without dialysis. If a patient is managed conservatively, all aspects of standard clinical care could be provided including out-patient visits to a nephrologist, the prescription of relevant medication and diet to control blood pressure, nutritional status and uraemia symptoms (Okamoto et al., 2015).

In addition, patients opting for CKM are offered full medical treatment and multidisciplinary support that comprises nephrologists, renal counsellors, social workers, dieticians, community and hospice services, and most specialist nurses (Da Silva-Gane et al., 2012; Verberne et al., 2016). In Europe, it is estimated that Nephrologists decided to offer conservative care in 10% of their patients and an additional 5% of the patients chose conservative care to RRT (van de Luitgaarden et al., 2013). Therefore, conservative care path is progressively acknowledged as an alternative treatment to dialysis and has been

introduced in the United Kingdom (Chandna et al., 2011; Chilot, 2010; Da Silva-Gane et al., 2012; Gast, 2015; Okamoto et al., 2015), Australia (Morton, Tong, Howard, Snelling & Webster, 2010), Canada (Davison, 2010), The Netherlands (Verberne et al., 2016), and other European countries (van de Luijngaarden et al., 2012; van de Luijngaarden et al., 2013).

O'Connor & Kumar (2012) adds that conservative management is an important alternative to discuss when counselling patients and families about dialysis. Da Silva-Gane et al. (2012) find that patients choosing conservative kidney management maintained quality of life. Additionally, Verberne et al. (2016) reveals that conservative management (CM) could be a reasonable alternative to RRT in selected patients, particularly those living in Sub-Saharan Africa. In Sub-Saharan Africa, people are vulnerable to kidney diseases resulting from rapid urbanisation and increasing rates of non-communicable diseases (Stanifer et al., 2014).

However, few epidemiological studies on the incidence, prevalence, and cause of these diseases are available (United Nations General Assembly, 2013; World Health Organisation, 2013). It is estimated that by 2030, more than 70% of patients with end-stage renal disease will be living in low-income countries, such as those in Sub-Saharan Africa where gross domestic product per person is on average less than US\$1500 per year (Naicker, 2009). Furthermore, a study by Stanifer et al. (2014) emphasises that in Sub-Saharan Africa, CKD is a substantial health burden with risk factors that include communicable and non-communicable diseases.

However, poor data quality limits inferences and draws attention to the need for more information and validated measures of kidney function especially

in the context of the growing burden of non-communicable diseases. Perico and Remuzzi (2014) stress that, considering that the prevalence of diabetes and high blood pressure is also progressively increasing in resource-poor countries, it should be assumed that the CKD burden will become even higher in regions, such as Sub-Saharan Africa.

Other authors have reported that most patients with ESKD, who start dialysis in Sub-Saharan Africa discontinue treatment and die due to insufficient infrastructure, catastrophic out-of-pocket costs (Ashuntantang et al., 2017), inadequate experienced workforce, limited diagnostic facilities, and low access to treatment (Okpechi, 2017). It is therefore recommended that further work is needed to develop equitable and sustainable strategies to manage individuals with ESKD in Sub-Saharan Africa.

The situation is not different in Ghana. Ephraim et al. (2015) conducted a cross-sectional survey at the Effia-Nkwanta Regional and the Takoradi government hospitals in South Western Ghana and found that the prevalence of CKD was high at 30%, 27 % in patients with diabetes, 22 % in patients with hypertension only and 74% in patients with both diabetes and hypertension. According to the authors, glomerular filtration rate (GFR) category G3a CKD was most prevalent stage (9%). Therefore, the present study sought to examine nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease in the Cape Coast Teaching Hospital (CCTH).

Statement of the Problem

More often, patients have no option but to begin dialysis when their CKD progresses. Studies exploring patients' and their caretakers' perceptions regarding dialysis decision-making reveal that they feel shocked about their diagnosis and feel unprepared about what to expect in the future (Morton et al., 2010; O'Connor & Kumar, 2012). More so, patients and their caretakers are unaware that they have a choice in renal replacement therapy modalities, that they have unrealistic expectations about what dialysis will achieve for them, and that most are not offered the option of conservative management (non-dialytic) of their CKD (Tonkin-Crine et al., 2015).

A surveyed among CKD patients in several metropolitan and rural renal clinics in Australia reported that they would be less likely to choose dialysis over conservative care if an increase in the number of visits to the hospital was required or if there were more restrictions in their ability to travel. Similarly, in Canada, a total of 61% of patients regretted their decision to start dialysis (Davison, 2010). Clearly, nephrologists and specialist nurses have a lot of room for improvement in the task of adequately presenting and communicating all treatment options to their patients (dialytic and non-dialytic), identifying which option is most consistent with a particular patient's goals, and outlining reasonable expectations for their future (Wachterman et al., 2013).

Scholars have emphasised the need to provide better evidence about conservative management to support shared decision making for older people with chronic kidney failure (Tonkin-Crine et al., 2015). Besides, many survey respondents have expressed support for further research comparing outcomes with conservative care versus dialysis (Okamoto et al., 2015). As a result, a

number of researchers across the world have devoted some attention to conservative management of end-stage kidney disease (Chandna et al., 2011; Chilot, 2010; Da Silva-Gane et al., 2012; Davison, 2010; Gast, 2015; Morton et al., 2010; Morton et al., 2010; O'Connor & Kumar, 2012; Okamoto et al., 2015; Tonkin-Crine et al., 2015; van de Luijngaarden et al., 2012; van de Luijngaarden et al., 2013; Verberne et al., 2016).

In particular, developing countries including Ghana, where the cost of dialysis is a huge burden for most patients with chronic kidney disease (Ashuntantang et al., 2017), conservative kidney management could be a better option for them. However, scanty literature exists for studies conducted in a developing country, particularly for Ghana (Ephraim et al., 2015; Osafo, Mate-Kole, Affram & Adu, 2011). Developing countries may have different situations, beliefs, attitudes, financial constraints, and cultural beliefs which may differ from their developed counterparts, hence, has the tendency of producing different research findings and recommendations in relation to the research under study. As a consequence, the present study sought to bridge the gap in literature by examining nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease at Cape Coast Teaching Hospital in Ghana.

Purpose of the Study

The study sought to examine nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease at Cape Coast Teaching Hospital in Ghana.

Research Objectives

The objectives of the study are: to

1. explore the knowledge of nurses, doctors and patients on conservative management of patients with end-stage kidney disease;
2. Assess the existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease;
3. explore the experiences of patients with end-stage kidney disease who are on dialysis; and
4. identify barriers to the practice of conservative management in patients with end-stage kidney disease.

Research Questions

The following research questions were formulated to give the study direction.

1. What is the knowledge of nurses, doctors and patients on conservative management of end-stage kidney disease?
2. What are the existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease?
3. How do patient with end-stage kidney disease experience dialysis?
4. What are the barriers to the practice of conservative management in patients with end-stage kidney disease?

Significance of the Study

Studying conservative management of end-stage kidney disease at Cape Coast Teaching Hospital is crucial since it would unveil: the knowledge of nurses and doctors on conservative management of patients with end-stage

kidney disease; the existing practices of nurses, doctors and patients on conservative management of patient with end-stage kidney disease; the experiences of patients with end-stage kidney disease who are on dialysis; and the barriers to the practice of conservative management in patients with end-stage kidney disease. Hence, the result of this research project will provide relevant information to policy makers and local health promoters working on the welfare of patients with end-stage kidney disease. Also, the study could lead to the adoption of low cost method that can improve management of ESKD. Furthermore, the study will provide additional information on the importance of conservative kidney management for interested researchers, nephrology providers, and particularly, health experts in the Cape Coast Teaching Hospital.

Delimitations

The present study seeks to examine nurses, doctors, and patients' knowledge and understanding about conservative management of end-stage kidney disease in the Cape Coast Teaching Hospital, Ghana. In terms of study organisation, the study is confined to Cape Coast Teaching Hospital in Ghana. Variables used in the study comprised the knowledge of nurses and doctors on conservative management of patients with end-stage kidney disease; the existing practices of nurses, doctors and patients on conservative management of patient with end-stage kidney disease; the experiences of patients with end-stage kidney disease who are on dialysis; and the barriers to the practice of conservative management in patients with end-stage kidney disease.

Limitations

In the opinion of Collet-Klingenberg and Kolb (2011), every investigator must be aware of potential limitations of his/her study and honestly share them with the readers. First and foremost, the confinement of the population to nurses, doctors and patients in Cape Coast Teaching Hospital rendered the result of the study applicable mainly to such health facility. As a consequence, it would be inappropriate to infer the results of the study to other establishments like University of Cape Coast Hospital, Korle-Bu Teaching Hospital among others.

Furthermore, since data were collected at one point in time (cross-sectional in nature), processes and changes that might have occurred over the period were not captured. Additionally, the inability to control the environment could affect the study's findings. This is because responses, generally, depend on the conditions of respondents during the time questionnaires are administered to them or during the time of interviewing. As such, their responses may be influenced by their current situation, which could eventually affect the study's findings.

Definition of Terms

Conservative kidney management: is a planned, comprehensive, patient-centred care for patients with ESRD, which integrates palliative care principles with interventions to delay progression of chronic kidney disease and minimise complications without dialysis (Combs & Davison, 2015).

Renal replacement therapy: is therapy that replaces the normal blood-filtering function of the kidneys. It is used when the kidneys are not working well, which is called renal failure and includes acute kidney injury and chronic kidney

disease. Renal replacement therapy includes dialysis, hemofiltration, and hemodiafiltration, which are various ways of filtration of blood with or without machines. Renal replacement therapy also includes kidney transplantation, which is the ultimate form of replacement in that the old kidney is replaced by a donor kidney (Gemmell, Docking & Black, 2017).

Nephrologist: A nephrologist is a medical doctor who specialises in kidney care and treating diseases of the kidneys. Nephrologists are sometimes called kidney doctors. A physician who has taken additional training to become an expert in nephrology may call him/herself a nephrologist or renal physician (Hodsman, 2008).

Organisation of the Study

This study is organised into five main chapters. Chapter One presented the introduction which comprise background to the study, statement of the problem, purpose of the study, research objectives, research questions, significance of the study, delimitations, and organisation of the study. Chapter Two reviewed various literatures relevant to this research project and Chapter Three described the methodology adopted for the study. Chapter Four captured the results and discussion whiles Chapter Five finalised the report with the summary, conclusions and recommendations.

CHAPTER TWO

LITERATURE REVIEW

Introduction

Literature review is a critique of the literature in relation to the research topic, that is, conservative management of end-stage kidney disease at the Cape Coast Teaching Hospital. Data used for this review were sourced from journals, books and unpublished thesis. It explains the concept of conservative kidney management, empirical review and conceptual framework. The empirical review documented the results of studies closely related to “Conservative management of end-stage kidney disease at the Cape Coast Teaching Hospital in Ghana”. The empirical review was grouped under four thematic areas, namely management and treatment options for CKM, risk factors/causes of CKM, prevalence, and demographics. Last, but not the least, the conceptual framework showed how the researcher intended to explore the research topic.

Conservative Kidney Management

Combs and Davison (2015) defines conservative kidney management as a planned, comprehensive, patient-centred care for patients with ESRD, which integrates palliative care principles [such as advance care planning (ACP), completion of advance directives or physician orders for life sustaining treatments, aggressive symptom management, and psychosocial and family support] with interventions to delay progression of CKD and minimize complications without dialysis. According to van de Luijtgaarden et al. (2013), conservative care is defined as conservative palliative care, not just to postpone renal replacement therapy (van de Luijtgaarden et al., 2013). If a patient is

managed conservatively, all aspects of standard clinical care could be provided including out-patient visits to a nephrologist, the prescription of relevant medication and diet to control blood pressure, nutritional status and uraemic symptoms (Okamoto et al., 2015).

In addition, patients opting for CKM are offered full medical treatment and multidisciplinary support that comprises nephrologists, renal counsellors, social workers, dieticians, community and hospice services, and specialist nurses (Da Silva-Gane et al., 2012; Verberne et al., 2016). A study by Okamoto et al. (2015), revealed that terminology varied, although “conservative management” was the most frequently used term (46%). Moreover, lack of an agreed-upon definition of when a patient is receiving CKM made it difficult to obtain meaningful data on the numbers of such patients.

Management and Treatment Options for CKM

In Australia, Morton et al. (2010) explored the views of patients and carers in treatment decision making for chronic kidney disease and discovered that confronting mortality (choosing life or death, being a burden, living in limbo), lack of choice (medical decision, lack of information, constraints on resources), gaining knowledge of options (peer influence, timing of information), and weighing alternatives (maintaining lifestyle, family influences, maintaining the status quo) were the four major themes central to treatment choices of patients and their carer. The study therefore concluded that the experiences of other patients greatly influenced the decision making of patients and carers.

In Canada, Davison (2010) conducted a study which sought to evaluate end-of-life care preferences of chronic kidney disease patients and found that

participants had poor self-reported knowledge of palliative care options and of their illness trajectory. A total of 61% of patients regretted their decision to start dialysis. More patients wanted to die at home (36.1%) or in an inpatient hospice (28.8%) compared with in a hospital (27.4%). Moreover, less than 10% of patients reported having discussed end-of-life care issues with their nephrologist in the past 12 months. Therefore, the analyst concluded that current end-of-life clinical practices do not meet the needs of patients with advanced CKD.

In another study, van de Luitgaarden et al. (2012) assessed the factors influencing the decision to start renal replacement therapy among European nephrologist. The findings showed that the median target eGFR selected to start RRT in uncomplicated patients was 10.0 (25th-75th percentile, 8.0-10.0) mL/min/1.73 m². Level of excretory kidney function was considered the most important factor in decision making regarding uncomplicated patients (selected by 54% of respondents); in patients with unfavourable clinical versus social conditions, this factor was selected by 24% versus 32%, respectively. Further examination revealed that acute clinical factors, such as life-threatening hyperkalemia refractory to medical therapy (100%) and uremic pericarditis (98%) elicited a preference for an immediate start, whereas patients' preference (69%) and vascular dementia (66%) postponed the start. Higher target eGFRs were reported by respondents from high- versus low-RRT-incidence countries (van de Luitgaarden et al., 2012).

Furthermore, van de Luitgaarden et al. (2013) examined conservative care in Europe—nephrologists' experience with the decision not to start renal replacement therapy. The researchers found that nephrologists decided to offer

conservative care in 10% of their patients. An additional 5% of the patients chose conservative care as they refused when nephrologists intended to start RRT. Further assessment indicated that patient preference (93%), severe clinical conditions (93%), vascular dementia (84%) and low physical functional status (75%) were extremely important in the nephrologists' decision to provide conservative care.

Nephrologists from countries with a low incidence of RRT, not-for-profit centres and public centres more often scored these factors as extremely or quite important than their counterparts from high-incidence countries, for-profit centres and private centres. The presence of severe clinical conditions, vascular dementia and a low physical functional status are important factors in the decision making not to start RRT. Patient preference was considered as a very important factor, confirming the importance of extensive patient education and shared decision-making (van de Luitgaarden et al., 2013).

In addition, O'Connor and Kumar (2012) summarized evidence on conservative, non-dialytic management of end-stage renal disease regarding 1) prognosis and 2) symptom burden and quality of life. In studies of prognosis, conservative management resulted in median survival of at least six months (range 6.3 to 23.4 months). Furthermore, findings were mixed as to whether dialysis prolongs survival in the elderly versus conservative, non-dialytic management. Any survival benefit from dialysis decreased with comorbidities, especially ischemic heart disease.

Patients who were managed conservatively reported a high symptom burden, underscoring the need for concurrent palliative. The study concluded that conservative management is an important alternative to discuss when

counselling patients and families about dialysis. Unlike withdrawal of dialysis in which imminent death is expected, patients who decline dialysis initiation can live for months to years with appropriate supportive care (O'Connor & Kumar, 2012). Using the same research approach, Morton et al. (2010) explored patient views about treatment of stage 5 CKD, using semi-structured interviews.

The results showed that fifty-two patients were on satellite hemodialysis therapy, 8 patients were on in-center hemodialysis therapy, 8 patients were on continuous ambulatory peritoneal dialysis therapy, 5 patients were on automated peritoneal dialysis therapy, 4 patients were on home hemodialysis therapy, and 18 patients had a functioning transplant at the time of interview. Freedom, convenience, self-care, effectiveness, and simplicity were commonly cited positive characteristics, whereas confinement, risk, family burden, pain, and time commitment were negative characteristics associated with RRTs (Morton et al., 2010).

Further examination revealed that positive characteristics were not specific to dialysis modalities, and some (for instance, self-care) were seen as both positive and negative. In conclusion, patients preferred RRTs that enhanced their freedom and autonomy and were convenient, effective, and simple. Furthermore, treatments that minimized confinement and risk also were viewed positively. Therefore, presentation of information regarding RRTs should focus on these characteristics and the potential impact of alternative treatments on the patients and how they wish to lead their lives (Morton et al., 2010). In a related study, Tonkin-Crine et al. (2015) explored patients' reasons for choosing conservative management and to compare the views of those who have chosen different treatments across renal units.

It came to light that patients who had chosen different treatments held varying beliefs about what dialysis could offer. The information that patients reported receiving from clinical staff differed between units. Patients from units with a more established conservative management pathway: were more aware of conservative management; less often believed that dialysis would guarantee longevity; and more often had discussed the future with staff. Some patients receiving conservative management reported that they would have dialysis if they became unwell in the future, indicating the conditional nature of their decision. Also, supporting renal staff in discussing conservative management as a valid alternative to dialysis for a subset of patients will aid informed decision making (Tonkin-Crine et al., 2015).

Within the same jurisdiction, Okamoto et al. (2015) performed a national survey on conservative care for end-stage renal disease. This national survey sought to describe the current scale and pattern of delivery of conservative care in UK renal units and identify their priorities for its future development. All but one unit reported providing CKM for some patients. CKM practice patterns varied: 35% had a written guideline, 23% had dedicated CKM clinics, 45% had dedicated staff, and 50% provided staff training on CKM. Furthermore, most units (88%) provided primary care clinicians with information/advice regarding CKM.

Eighty per cent identified a need for better evidence comparing outcomes on CKM versus dialysis, and 65% considered it appropriate to enter patients into a randomized trial. The authors concluded that CKM is provided in almost all UK renal units, but the scale and organisation vary widely. Lack of common terminology and definitions hinders the development and

assessment of CKM. Many survey respondents expressed support for further research comparing outcomes with conservative care versus dialysis (Okamoto et al., 2015).

Da Silva-Gane et al. (2012) conducted a single-centre prospective cohort study which prospectively compared quality of life and survival in CKM patients and those opting for dialysis. After 3 years, 80 and 44 of 170 patients had started or were planned for hemodialysis (HD) or peritoneal dialysis, respectively; 30 were undergoing CKM; and 16 remained undecided. The mean baseline that was estimated was similar in all groups but was slightly higher in undecided patients. CKM patients were more dependent and more highly comorbid. In addition, they had poorer physical health and higher anxiety levels than the dialysis patients. Moreover, mental health, depression, and life satisfaction scores were similar.

Multilevel growth models demonstrated no serial change in quality-of-life measures except life satisfaction, which decreased significantly after dialysis initiation and remained stable in CKM. In Cox models, controlling for comorbidity, Karnofsky performance scale score, age, physical health score, and propensity score, median survival from recruitment was 1317 days in HD patients (mean of 326 dialysis sessions) and 913 days in CKM patients. The authors concluded that, patients choosing CKM maintained quality of life (Da Silva-Gane et al., 2012). Subsequently, Verberne et al. (2016) performed a single-centre retrospective cohort study in a non-profit, non-academic teaching hospital in the Netherlands. In total, 107 patients chose CM, and 204 chose RRT. Median survival of those choosing RRT was higher than those choosing CM from time of modality choice.

Risk Factors/Causes of Conservative Kidney Management

By adopting the quantitative research approach, Chilot (2010) conducted a study which aimed to examine whether illness perceptions predict depression and its trajectory in end stage renal disease patients, and to establish if depression and illness perceptions are associated with adverse clinical outcomes in these patients. The findings revealed that nearly 30% of those sampled were depressed ($BDI \geq 16$), highlighting the extent of depressive symptoms in this patient group. Significant differences between depressed and non-depressed patients with regards to illness perceptions were evident. In logistic regression; illness coherence, perceived consequences and treatment control perceptions predicted depression.

On the contrary, clinical variables, including co-morbidity were unrelated to depression. This suggested that it was not disease severity or extra-renal co-morbidity per se that are vulnerabilities for depression, rather it was the interpretation of the disease that appeared to be important. Chilot (2010) later extended the cross-sectional investigation by examining the trajectory of depression (that is, change in depression) over the first year of dialysis therapy in relation to illness representations. It came to light that unplanned starters were more depressed than the planned patients and held different illness perceptions. Structural equation modelling of the baseline data revealed that illness perceptions predicted depression, and that path to dialysis had an indirect effect on depression as mediated through illness perceptions.

Finally, the potential association between depression, illness representations and short term survival in incident dialysis patients was evaluated. Furthermore, survival models including illness perceptions revealed

that treatment control perceptions were also predictive of mortality. The results suggested that depression and beliefs surrounding treatment control contribute to the survival of dialysis patients. In conclusion, the empirical investigations offered here supported the argument that illness perceptions predict depression in dialysis patients. Moreover, there was evidence that illness representations were associated with maladaptive health behaviour (non-adherence) in dialysis patients. Depression and illness representations also predicted short-term survival in incident patients after adjusting for important co-variates (Chilot, 2010).

Prevalence: Studies Conducted in Developed Countries

In the United Kingdom, Gast (2015) examined the prevalence and distribution of genetic kidney diseases in a cohort of chronic kidney disease patients. The results showed a prevalence of genetic kidney diseases other than polycystic kidney disease (PKD) of 7.6% amongst end-stage renal disease patients and 3.8% amongst CKD patients, which was higher than previously reported. The study further revealed uromodulin associated kidney disease (UAKD) to be the most prevalent genetic kidney disease after PKD, which has not been reported previously.

The prevalence for UAKD in Wessex was established at 8.5 per million by uromodulin (UMOD) gene sequencing. This percentage was much higher than the only published prevalence of 1.7 per million in Austria. Established diagnostic biochemical tests for UAKD were evaluated and found to have relatively poor sensitivity and specificity – 70 and 45% respectively in the case of the fractional excretion of urate, and 70 and 63% for urinary uromodulin, measured by enzyme linked immunosorbent assay (ELISA). On review of

clinical phenotypes, hyperuricaemia and gout as the typical clinical features were not statistically associated with UAKD, highlighting the need for gene testing to establish the diagnosis (Gast, 2015).

Demographics

In the United Kingdom, Chandna et al. (2011) for patients with anaemia and adequate iron stores, erythropoiesis-stimulating agents should be initiated when the haemoglobin level falls below 100 g/L and the survival of elderly patients with stage five chronic kidney diseases by comparing conservative management patients to patients on renal replacement therapy and found that conservative management patients were older and a greater proportion had high comorbidity. Median survival from entry into stage 5 chronic kidney disease was less in conservative management than in RRT (21.2 vs 67.1 months: $P < 0.001$). However, when patients aged >75 years were corrected for age, high comorbidity and diabetes, the survival advantage from RRT was ~ 4 months, which was not statistically significant.

Increasing age, the presence of high comorbidity and the presence of diabetes were independent determinants of poorer survival in RRT patients. In conservative management patients, however, age >75 years and female gender independently predicted better survival. The researchers concluded that, in patients aged >75 years with high extra-renal comorbidity, the survival advantage conferred by RRT over CM is likely to be small. Additionally, age >75 years and female gender predicted better survival in CM patients (Chandna et al., 2011). Identically, a study by Da Silva-Gane et al. (2012) disclosed that CKM patients were older than dialysis patients.

Indistinguishably, Verberne et al. (2016) compared survival of older renal patients choosing either CM or RRT and revealed that patients choosing CM were older than those who chose RRT. However, the survival advantage of patients choosing RRT was no longer observed in patients ages ≥ 80 years old. The survival advantage was also substantially reduced in patients ages ≥ 70 years old with Davies comorbidity scores of ≥ 3 , particularly with cardiovascular comorbidity, although the RRT group maintained its survival advantage at the 5% significance level.

Further analysis showed that there was no statistically significant survival advantage among patients ages ≥ 80 years old choosing RRT over CM. Furthermore, comorbidity was associated with a lower survival advantage. This provided important information for decision making in older patients with ESRD. The analysers concluded that CM could be a reasonable alternative to RRT in selected patients (Verberne et al., 2016). Tonkin-Crine et al. (2015) also explored the understanding by older patients of dialysis and conservative management for chronic kidney failure and concluded that older adults with chronic kidney disease stage 5, who have chosen different treatment options, have contrasting beliefs about the likely outcomes of dialysis than those who are influenced by information provided by renal units.

Prevalence: Studies Conducted in Ghana

Osafo et al. (2011) initiated a multicenter screening study to identify the prevalence and staging of CKD in 712 patients with known hypertension in four polyclinics in Accra. The researchers disclosed that the mean duration of hypertension was 4 years (range 0.1–50). The overall prevalence of CKD was 46.9% and 27.8% had CKD stages 3–5. There was no difference in age between

patients with or without CKD ($p = 0.12$). Also, the overall prevalence of proteinuria was 28.9%; 14.7% of subjects had pre-existing diabetes mellitus and their prevalence of CKD did not differ from those without diabetes. CKD was common in hypertensive patients, with a prevalence of 46.9%. This result provided justification for the inclusion of this group in CKD screening programs in Ghana.

Successively, Ephraim et al. (2015) conducted a cross-sectional survey at the Effia-Nkwanta regional and the Takoradi Government hospitals in South Western Ghana, using 208 consecutive adults with diabetes, hypertension or both. Measurement included serum creatinine and urine albumin-creatinine ratio respectively. The findings showed that the prevalence of CKD was 30%: 27% in patients with diabetes, 22% in patients with hypertension only and 74% in patients with both diabetes and hypertension. GFR category G3a CKD was most prevalent stage (9%). Albuminuria was highest among people with diabetes (39%).

Demographics

Osafo et al. (2011) initiated a multicenter screening study to identify the prevalence and staging of CKD in 712 patients with known hypertension in four polyclinics in Accra: Ghana and found that, of the 712 patients studied, the median age was 59 years (range 19–90 years) and 560 (78.7%) of the patients were female, signalling that females were more prone to CKD. Table 1 showed the summary of the empirical review.

Table 1: Summary of Empirical Review

SN	Author(s)	Research Topic	Research Approach	Key Finding(s)	Conclusion(s)
1	Morton et al. (2010)	The views of patients and carers in treatment decision making for chronic kidney disease: Systematic review and thematic synthesis of qualitative studies (Australia)	Qualitative	a) Confronting mortality, lack of choice, gaining knowledge of options, and weighing alternatives are central to treatment choices of patients and their carer.	Experiences of other patients greatly influence the decision making of patients and carers.
2	Davison (2010)	End-of-life care preferences and needs: Perceptions of patients with chronic kidney disease (Canada)	Quantitative	a) Insufficient knowledge on palliative care options and illness trajectory. b) Majority of patients regretted starting dialysis. More patients preferred to die at home compared with a hospital. c) Few patients reported having discussed end-of-life care issues with their nephrologist.	Current end-of-life clinical practices do not meet the needs of patients with advanced CKD.
3	Chandna et al. (2011)	Survival of elderly patients with stage 5 chronic kidney disease: Comparison of conservative management and renal replacement therapy (United Kingdom).	Quantitative	a) Median survival from entry into stage 5 chronic kidney disease was less in CM than in RRT. b) CM patients, age >75 years and female gender independently predicted better survival.	In patients aged >75 years with high extra-renal comorbidity, the survival advantage conferred by RRT over CM is likely to be small.
4	van de Luijtgaarden et al. (2012)	Factors influencing the decision to start renal replacement therapy: Results of a survey among European nephrologists.	Quantitative	a) Level of excretory kidney function was considered the most important factor in decision making regarding uncomplicated patients.	Uncomplicated patients prioritise the level of their excretory kidney function in their decision making.

Table 1, Continued

SN	Author(s)	Research Topic	Research Approach	Key Finding(s)	Conclusion(s)
5	van de Luitgaarde et al. (2013)	Conservative care in Europe—nephrologists’ experience with the decision not to start renal replacement therapy.	Quantitative	<ul style="list-style-type: none"> a) Nephrologists decided to offer conservative care in 10% of their patients b) Patient preference, severe clinical conditions, vascular dementia, and low physical functional status were considered extremely important in the nephrologists’ decision to provide conservative care. c) 5% of the patients chose conservative care as they refused when nephrologists intended to start RRT. 	CM was provided to up to 15% of patients.
6	O’Connor and Kumar (2012)	Conservative management of end-stage renal disease without dialysis: A systematic review.	Qualitative	<ul style="list-style-type: none"> a) Any survival benefit from dialysis decreases with comorbidities, especially ischemic heart disease. b) Patients who were managed conservatively reported a high symptom burden, underscoring the need for concurrent palliative. c) Unlike withdrawal of dialysis in which imminent death is expected, patients who decline dialysis initiation can live for months to years with appropriate supportive care. 	a) CM is an important alternative to discuss when counselling patients and families about dialysis.

Table 1, Continued

SN	Author(s)	Research Topic	Research Approach	Key Finding(s)	Conclusion(s)
7	Morton et al. (2010)	Patient views about treatment of stage 5 CKD: A qualitative analysis of semi-structured interviews	Qualitative	<p>a) Majority of patients were on satellite hemodialysis therapy.</p> <p>b) Freedom, convenience, self-care, effectiveness, and simplicity were commonly cited positive characteristics, whereas confinement, risk, family burden, pain, and time commitment were negative characteristics associated with RRTs.</p>	<p>a) Patients preferred RRTs that enhanced their freedom and autonomy and were convenient, effective, and simple.</p> <p>b) Treatments that minimized confinement and risk were also viewed positively.</p>
8	Tonkin-Crine et al. (2015)	Understanding by older patients of dialysis and conservative management for chronic kidney failure.	Qualitative	<p>a) The information that patients reported receiving from clinical staff differed between units.</p> <p>b) Patients from units with a more established CM pathway: were more aware of CM; less often believed that dialysis would guarantee longevity; and more often had discussed the future with staff.</p> <p>c) Some patients receiving conservative management reported that they would have dialysis if they became unwell in the future, indicating the conditional nature of their decision.</p>	<p>a) Older adults with chronic kidney disease stage 5 who have chosen different treatment options have contrasting beliefs about the likely outcomes of dialysis for those who are influenced by information provided by renal units.</p> <p>b) Supporting renal staff in discussing CM as a valid alternative to dialysis for a subset of patients will aid informed decision making.</p>

Table 1, Continued

SN	Author(s)	Research Topic	Research Approach	Key Finding(s)	Conclusion(s)
9	Chilot (2010)	Studies of depression and illness representations in end-stage renal disease (United Kingdom).	Quantitative	<p>a) Nearly 30% of end stage renal disease were depressed ($BDI \geq 16$), highlighting the extent of depressive symptoms in this patient group.</p> <p>b) Significant differences between depressed and non-depressed patients with regards to illness perceptions were evident.</p> <p>c) Perceived consequences and treatment control perceptions predicted depression.</p> <p>d) Clinical variables including co-morbidity were unrelated to depression</p> <p>e) Unplanned starters were more depressed than the planned patients and held different illness perceptions.</p>	a) It is not disease severity or extra-renal co-morbidity per se that are vulnerabilities for depression, rather it is the interpretation of the disease that appears to be important.
10	Gast (2015)	A study of genetics of chronic kidney disease (United Kingdom).	Qualitative	(a) There is a prevalence of genetic kidney diseases other than polycystic kidney disease in ESRD and CKD patients.	(a) Genetic kidney diseases is higher than polycystic kidney disease in ESRD and CKD patients.
11	Okamoto et al. (2015)	Conservative care for ESRD in the United Kingdom: A national survey.	Quantitative	<p>a) Almost all units reported providing CKM for some patients</p> <p>b) Most units (88%) provided primary care clinicians with information/advice regarding CKM.</p> <p>c) Eighty per cent identified a need for better evidence comparing outcomes on CKM versus dialysis.</p>	<p>a) CKM is provided in almost all UK renal units, but scale and organisation vary widely.</p> <p>b) Lack of common terminology and definitions hinders the development and assessment of CKM.</p>

Table 1, continued

SN	Author(s)	Research Topic	Research Approach	Key Finding(s)	Conclusion(s)
12	Da Silva-Gane et al. (2012)	Quality of life and survival in patients with advanced kidney failure managed conservatively or by dialysis (United Kingdom).	Quantitative	a) CKM patients were older, more dependent, and more highly comorbid; had poorer physical health; and had higher anxiety levels than the dialysis patients. b) Life satisfaction decreased significantly after dialysis initiation and remained stable in CKM.	CKM is preferred to dialysis.
13	Verberne et al. (2016)	Comparative survival among older adults with advanced kidney disease managed conservatively versus with dialysis (The Netherlands).	Quantitative	a) RRT was highly preferred by patients than CM. b) Median survival of patients choosing RRT was higher than those choosing CM from time of modality choice and all other starting points in all patients. c) Survival advantage of patients choosing RRT was not observed in patients ages ≥ 80 years old.	CM could be a reasonable alternative to RRT in selected patients.
14	Ephraim et al. (2015)	Prevalence of chronic kidney disease among the high risk population in South-Western Ghana: A cross sectional study.	Quantitative	a) The prevalence of CKD was 30%: 27% in patients with diabetes, 22% in patients with hypertension only and 74% in patients with both diabetes and hypertension.	Evidence of CKM exists among some patients in Ghana.
15	Osafo et al. (2011)	Prevalence of chronic kidney disease in hypertensive patients in Ghana.	Quantitative	a) CKD was prevalent in females than males. b) CKD was prevalent in older generations than younger ones. c) CKD was common in hypertensive patients.	Hypertensive patients should be included in CKD screening programs in Ghana.

Lessons Learnt from the Literature Review

Researchers in the Netherlands (Verberne et al., 2016), United Kingdom (Chandna et al., 2011; Chilot, 2010; Da Silva-Gane et al., 2012; Gast, 2015; Okamoto et al., 2015), Australia (Morton, Tong, Howard, Snelling, & Webster, 2010), Canada (Davison, 2010) and Europe in general (van de Luitgaarden et al., 2012; van de Luitgaarden et al., 2013), have devoted some attention to studies related to conservative management of end-stage kidney disease. However, little empirical literature exists for related studies conducted in developing country's perspective, particularly Ghana (Ephraim et al., 2015; Osafo, Mate-Kole, Affram, & Adu, 2011).

Also, these studies have been limited to discovering the prevalence of ESKD among patients with little emphasis on the knowledge of nurses, doctors and patients on conservative management of patients with ESKD; the existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease; the experiences of patients with end-stage kidney disease who are on dialysis; and the barriers to the practice of conservative management in patients with end-stage kidney disease. In support, Tonkin-Crine et al. (2015) emphasised that there is a need for better evidence on conservative management to support shared decision making for older people with chronic kidney failure. Besides, many survey respondents have expressed support for further research comparing outcomes with conservative care versus dialysis (Okamoto et al., 2015).

Conceptual Framework of the Study

The Chronic Care Model (CCM) is a widely adopted approach to improving ambulatory care that has guided clinical quality initiatives around the world (MacColl Institute for Health and Innovation, 2008). The CCM (Figure 1) is an organizational approach to caring for people with chronic disease in a primary care setting. The system is population-based and creates practical, supportive, evidence-based interactions between an informed, activated patient and a prepared, proactive practice team. The CCM identifies the essential elements of a health care system that encourage high-quality chronic disease care. These elements are the health system, the community, self-management support, delivery system design, decision support and clinical information systems.

In the present study, the CCM is adopted in explaining conservative management of end-stage kidney disease in patients, with support from a prepared and proactive team of nurses and doctors. This is in congruence with Wagner et al (2001) in their study they stated that the chronic care model(CCM) has been implemented in the United states, the United Kingdom and Sweden for management of chronic illness. If a patient is managed conservatively, all aspects of standard clinical care could be provided including out-patient visits to a nephrologist, the prescription of relevant medication and diet to control blood pressure, nutritional status, and uremic symptoms (Okamoto et al., 2015). This is also in support with what was said by Renders et al (2001) that interventions for the management of chronic diseases includes combination of multi-prolonged strategies. Moreover, patients opting for conservative kidney management are offered full medical treatment and multidisciplinary support

by a team that comprises nephrologists, renal counsellors, social workers, dieticians, community and hospice services, and most specialist nurses (Verberne et al., 2016). This has been supported by Wagner et al (1999) in their study that is it essential for healthcare organization to quickly find effective ways to re-orient services to effectively deal with the needs and concerns of individuals with chronic diseases. While the CCM has certainly been helpful for a number of health facilities in the world, it does not reflect the diversity and complexities of those aspects of prevention and health promotion that go beyond clinical practice. As well, the CCM present a narrow perspective of the roles that the community support play in improving health (Glasgow et al, 2001).

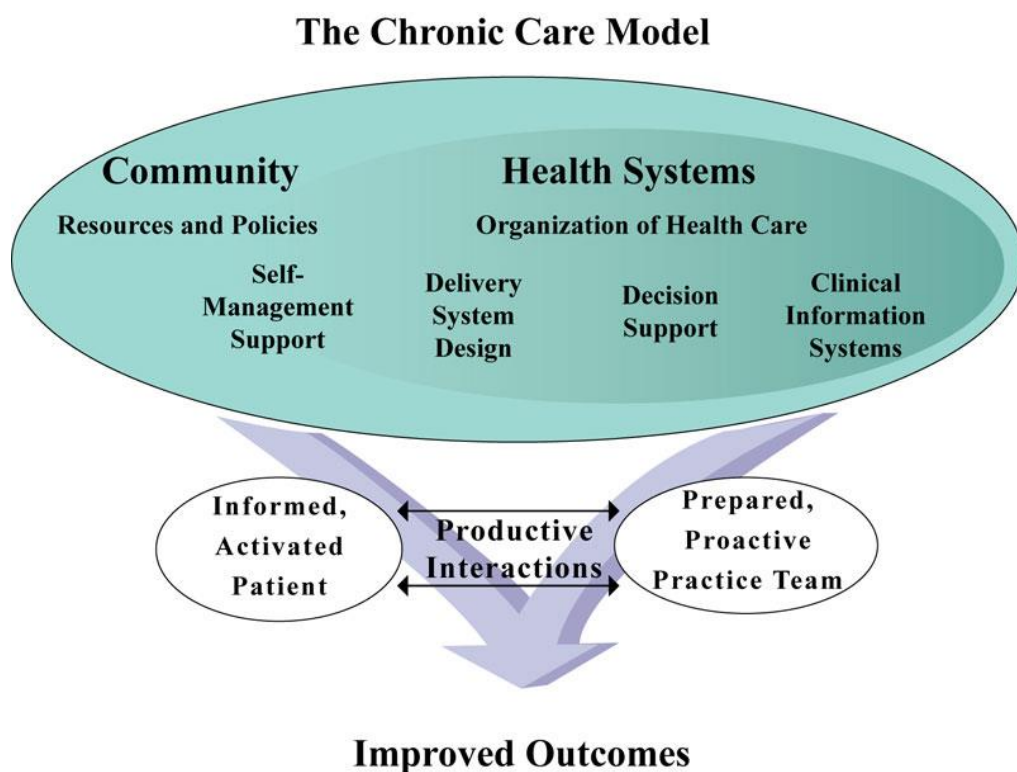


Figure 1: The chronic care model

Source: Adapted from MacColl Institute for Health and Innovation (2008)

CHAPTER THREE

RESEARCH METHODS

Introduction

This chapter presents the methodology adopted for the study. It comprises the research approach, study setting, population, sampling procedure and sample size, data collection instruments, ethical considerations, pre-test, data collection procedure, and data processing and analysis. The chapter ended with a chapter summary.

Research Approach/ Design

Mixed methods research, in the words of Creswell and Plano-Clarke (2007), uses multiple ways to explore a research problem. The design employs a blend of both quantitative and qualitative perspectives. It is noted for its ability to explore a phenomenon, complement the strength of a single research approach, and overcome the weaknesses of a single design (Creswell, 2007). Yin (2017) advises that the research approach adopted should accommodate the research objectives of the study.

The research objectives of this study sought to explore the knowledge of nurses, doctors and patients on conservative management of patients with end-stage kidney disease; to assess the existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease; to explore the experiences of patients with end-stage kidney disease who are on dialysis; and to identify barriers to the practice of conservative management in patients with end-stage kidney disease.

These four research objectives provide a blend of exploratory and descriptive research designs. Explorative research design flows from the qualitative research approach, whereas the descriptive research design emanates from the quantitative research approach. Therefore, the explorative-descriptive research design, which is a type of mixed methods, was utilised for this study.

Study Setting

The study setting is Cape Coast Teaching Hospital which is located in Cape Coast, in the Central Region of Ghana. Among the districts in the central region, Cape Coast ranked 4th in terms of poverty levels signifying that most of the people within Cape Coast earn an average income. The population of the Cape Coast Metropolis, according to the 2010 Population and Housing Census, is 169,894 representing 7.7 percent of the region's total population. Males constitute 48.7 percent and females represent 51.3 percent. Twenty three percent of the population live in rural localities. The total age dependency ratio for the metropolis is 49.1, the age dependency ratio for males is lower (48.2) than that of females (49.9) (Ghana Statistical Service, 2015).

The Cape Coast Teaching Hospital seeks to be a world-class leader in tertiary healthcare, medical education and more importantly, research. The hospital serves as a facility for medical students from the University of Cape Coast and is a centre for learning for several nurses training college in the country. The hospital has 10 dialysis machines used by patients with end-stage kidney disease and it is the only dialysis centre that manages kidney diseases of patients from Central and Western regions. The centre is able to manage patients on dialysis and in consultation with other hospital patients are referred outside the country for kidney transplant.

Staffs of CCTH are made up of committed and abled nurses who work assiduously to save lives to help achieve the hospitals' vision of being a world-class leader in tertiary healthcare, medical education and research. The various departments/units of the hospital include Paediatric Ward, Surgical Suite, Female Surgical Ward, Male Surgical Ward, Recovery Ward, Intensive Care Unit, Theatre, Executive Ward, Medical Ward, Dialysis Unit, Neonatal Intensive Care Unit, Delivery Suite, Accident and Emergency, Out-Patient Department, and Obstetrics and Gynaecology. Some unique departments/units include Renal Centre, Radiology Department, Diabetic Unit, and Public Health Unit. The hospital can boast of unique facilities like City Scan, and Magnetic Resonance Imaginary. CCTH also serve as a facility for medical students from the University of Cape Coast and is a centre for learning for several nurses training college.

Population

A population is made up of all the units of the group that the research emphasises on. Malhotra (1996) opines that the members or units of the group should possess material facts relevant to the study and the researcher. Rubin and Babbie (2001) add that, the target population is the theoretically specified aggregation of study elements. Therefore, all nurses and doctors working in the Male Medical Ward, Female Medical Ward, Dialysis Unit and the Renal Clinic of the Cape Coast Teaching Hospital formed the target population of the study. These units were selected because that is where patients with ESKD are treated. As of July 2018, there were 153 nurses working in the four units at the hospital hence all 153 nurses formed the target population of the study as shown in Table

2. Moreover, the study targeted all the six medical doctors, who were involved in CKD treatment in the hospital and 68 patients with end stage kidney disease currently receiving treatment at the hospital. Data was sourced from the Biostatistics Unit of the hospital.

Table 2: Target Population

Departments/Units	Number of Nurses	Number of Doctors
Male Medical Ward	40	-
Female Medical Ward	39	-
Dialysis Unit	29	6
Renal Clinic	45	-
Total	153	6

Regarding inclusion criteria, all nurses and doctors working in the Male Medical Ward, Female Medical Ward, Dialysis Unit and the Renal Clinic of the Cape Coast Teaching Hospital who were available at the time of data collection were included in the study. Furthermore, all available medical doctors who were involved in CKD treatment in the hospital were included in the study. In addition, all patients with end stage kidney disease who were currently receiving treatment at the hospital at the time of data collection were included. Also Doctors and Nurses who had served for more than three months were included whilst those who have not served for more than three months were excluded. medical doctors and nurses who were on annual leave and other official assignments and, therefore, were not available during data collection were also excluded from the study, Additionally, all patients with end stage kidney disease who were not receiving treatment at the hospital at the time of data collection were excluded from the study.

Sampling Procedure and Sample Size

A census was used to choose all 153 nurses working in the Male Medical Ward, Female Medical Ward, Dialysis Unit and the Renal Clinic of the hospital. In view of this, all the 153 nurses working at the hospital served as the sample size for the quantitative phase (Table 2). Moreover, the purposive sampling technique was used to select six doctors who were involved in CKD treatment in the hospital to serve as sample size for the qualitative phase of the study. In the same way, patients with end-stage kidney disease were purposively selected for the study. Interviews were ended upon reaching saturation. Saturation is commonly taken to indicate that, on the basis of the data that has been collected or analysed hitherto, further data collection and/or analysis are unnecessary (Saunders et al., 2018). In line with this avowal, five doctors and 18 patients were interviewed to reach saturation. Data gathered from doctors and patients were aided by a semi-structured interview guide.

Data Collection Instruments

Data was collected using a questionnaire and a semi-structured interview guide. The questionnaire was used to collect data from nurses (quantitative phases), whereas the semi-structured interview guide gathered data from both doctors and patients (qualitative phase). Two separate interview guides were designed for doctors and patients. The interview guide for doctors was grouped into four sections in order to achieve the stated objectives. ‘Section A’ collected data on the demographic characteristics of doctors, ‘Section B’ collected data on the existing practices of doctors on conservative kidney management, ‘Section C’ captured the knowledge of doctors on conservative

kidney management, and finally, 'Section D' looked at barriers to the practice of conservative management in patients with end-stage kidney disease.

Additionally, the interview guide for patients was sub-divided into three sections. 'Section A' collected data on the demographic characteristics of patients, 'Section B' gathered data on the knowledge of patients on conservative kidney management and 'Section C' collected data on the experiences of patients with end-stage kidney disease who are on dialysis. On the other hand, the questionnaire for nurses consisted of 40 items which were divided into three sections: 'Section A' collected data on the demographic characteristics of nurses; 'Section B' focused on the existing practices of nurses on conservative management for patient with end-stage kidney disease and 'Section C' captured the knowledge of nurses on conservative kidney management.

Indicators on Sections B and C on the questionnaire are measured on a five-point Likert scale, as used in prior studies (Chandna et al., 2011; Okamoto et al., 2015) with score '1' indicating 'strongly disagree', score '2' suggesting 'disagree', score '3' signifying 'moderately agree', score '4' suggesting 'agree' and score '5' indicating 'strongly agree'. Other indicators were discrete in nature (that is, yes or no answers). The questionnaire was designed based on prior literature.

Pre-Test

A pre-test was done to test validity of the interview guide and questionnaire before the main study. A pre-test to establish the instrument's validity was carried out with the aim of improving the use of the primary data, and this activity has been practiced by earlier researchers in the area of conservative kidney management (Chilot, 2010; Davison, 2010; Okamoto et al.,

2015; van de Luitgaarden et al., 2012; van de Luitgaarden et al., 2013). The interview guide was validated by the supervisors of this thesis in the form of expert judgement. Regarding the questionnaire, five nurses from each of the four selected units within Cape Coast Teaching Hospital were issued with unfilled draft questionnaires to complete. 15, out of the 20 questionnaires that were issued to the respondents were recovered. This sample size ($n=15$) conformed to Saunders, Lewis and Thornhill's (2007) minimum criteria of 10 for pre-test by students. Though some grammatical errors were corrected, no changes were made to both the interview guide/questionnaire with respect to each of the questions/statements in the constructs, since all the questions/statements were understood by the respondents. This made the research instrument trustworthy and valid.

As explained by Mugenda and Mugenda (2003), pre-test allows errors to be discovered enabling effective revision as it results in determination of participants interest, discovering if the questions have meaning for the participants, checking for the participants modification of the question intent and whether what the researcher is measuring is what was intended to be measured. The instrument were found to measure what the study intended to measure and the questions were clear and easily understood by the respondents. This study employed an Alpha co-efficient of 0.7 or more as suggested by Pallant (2007). Results from the pre-test as indicated in the Table 3 showed Cronbach's Alpha of 0.719 and 0.720 for "Existing practices of nurses on CKM for patients with ESKD" and "Knowledge of nurses on CKM" variables respectively. This, therefore, suggests that the two variables in the questionnaire had good internal consistency reliability.

Table 3: Computed Reliability Co-efficient for Pre-Tested Data

Questionnaire Section	No. of Items	Sample Size	Cronbach's Alpha
Existing practices of nurses on CKM for patients with ESKD.	14	15	0.719
Knowledge of nurses on CKM.	20	15	0.720

Source: Field survey, Bonsu (2018)

Ethical Considerations

In order to ensure strict compliance with ethical standards of research, the researcher introduced a clause in the introductory paragraph of the questionnaire and interview guide assuring respondents of anonymity and confidentiality. Furthermore, ethical approval was sought from the management of CCTH and University of Cape Coast's Institutional Review Board (IRB), prior to data collection. Following this, the researcher was granted approval by both institutions. Additionally, the time required for filling the questionnaire was mutually agreed between the respondents and the researcher. Participants were informed about the purpose of the study and confidentiality. They were assured that this research posed minimum risk to them.

Data Collection Procedures

A questionnaire was used to collect primary data from nurses. Questionnaires were left with the nurses and collected later within an agreed period of five days after they were administered (27th to 31st May, 2019). Some nurses were guided through the filling of the instruments to ensure proper understanding of the questions and statements. Data collection was conducted

solely the researcher, without any field assistants. Regarding the qualitative phase, interviews were conducted with five medical doctors working in the Dialysis and Medical Wards, where patients with end-stage kidney disease were attended to more often. The selected medical doctors were interviewed face to face in their own offices. Additional interviews were conducted with patients with end-stage kidney disease.

Patients with end-stage kidney disease were granted permission by their health care professionals to be sufficiently physical and mentally fit to take part in an interview. Participants (patients with end-stage kidney disease) were interviewed face to face at the renal unit after receiving dialysis, as it was the most comfortable place for the patients, from their perspective and probe-in questions were used where necessary. Overall, 18 patients were interviewed to reach saturation. The reasons were that some of the patients had defaulted for unknown reasons and therefore were no longer visiting the hospital, and others had made some progress with their treatment so were in their various homes or visited the hospital occasionally.

Furthermore, some patients were death and dump and thus were excluded from the interview, since the researcher could not understand and use the sign language. Finally, some patients were not available at the time of interviewing for unknown reasons. However, the similar trend of responses provided by the 18 patients suggested that the other patients would have given similar narrations and, therefore, would not have made much difference to the nature and number of themes generated.

Interviews were recorded once. For participants who did not agree to the recording, field notes were written by the researchers. Patients were

approached directly by their renal nurse and given information about the study. If interested in participating, an appointment is arranged with the researcher to discuss possible participation in greater detail. Interviews for all participants range from 10 to 30 minutes and they were audio recorded.

Data Processing and Analysis

Quantitative data obtained from the questionnaires were coded and analysed with the help of IBM SPSS for windows, version 23. Data was analysed based on the stated objectives of the study. Descriptive statistics, namely frequency and percentage were used to analyse the demographic characteristics of respondents (categorical data). The results of the demographic characteristics of respondents were displayed in tables. In selecting the suitable measure of central tendency and dispersion to be to analyse the quantitative data from nurses (continuous data), the researcher tested for normality in data, as recommended by Adam (2015), employing the Kolmogorov-Smirnov test of IBM SPSS Statistics for windows, version 23. The Kolmogorov-Smirnov test was preferred over Shapiro-Wilk test, since the dataset used was larger than 50 elements: $n=146$ (Adam, 2018). The Kolmogorov-Smirnov test calculated the probability that the sample was drawn from a normal distribution. It required the specification of a hypothesis statement, as shown below:

H_0 : The sample is not significantly different from a normally distributed data or the sample data is normally distributed.

H_1 : The sample is significantly different from a normally distributed data or the sample data is not normally distributed.

Regarding the decision rule, if the Kolmogorov-Smirnov test yields a significance level less than the alpha level (0.05), it means that the distribution is not normal. Nevertheless, if the Kolmogorov-Smirnov Z test yields a significance level greater than the alpha level (0.05), it means that the distribution is normal. As depicted in Table 3, the Kolmogorov-Smirnov Z test indicated that the *p*-values for all the two variables (Knowledge on CKM and Existing practices on CM) were more than the alpha level of 0.05, hence, the analyst failed to reject the null hypothesis and concluded that the samples for ‘Knowledge on CKM’ and ‘Existing practices on CM’ were not significantly different from a normally distributed data. Put in another way, the samples for ‘Knowledge on CKM’ and ‘Existing practices on CM’ were normally distributed (Table 3).

Table 4: Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	Df	Sig.
Knowledge on CKM	.045	146	.200*	.916	146	.000
Existing Practices on CM	.172	146	.203*	.913	146	.000

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Source: Field survey, Bonsu (2019)

This result informed the analyst to use the mean (*M*), as the measure of central tendency and standard deviation (*SD*), as a measure of dispersion in analysing the quantitative data obtained from nurses, as recommended by Adam (2018). In addition, one-sample t-test was employed to ascertain whether the sample is significantly different from the known difference in mean. The results were displayed in Tables.

For the qualitative phase, interview with doctors and patients with end-stage kidney disease were audio recorded and transcribed verbatim before data analyses. All field notes were also transcribed verbatim. In analysing the interview data, the writer employed the constant comparison analyses (CCA) propounded by Glaser and Strauss (1967). CCA was deemed appropriate for this research because the researcher was interested in utilising the entire dataset to identify underlying themes revealed through the data, which is a tenet of CCA (Leech & Onwueguzie, 2007). In support of this statement, O'Connor, Netting and Thomas (2008) submits that constant comparison assures that all data are systematically compared to all other data in the data set. CCA helps to develop concepts from the data by coding and analysing at the same time (Taylor & Bogdan, 1998).

The researcher listened to entire recorded raw interview data, after which the data was grouped into smaller meaningful parts by labelling them into descriptive titles/themes, an important tenet of CCA. Texts or narrations as provided by interviewees were therefore sorted, and grouped under relevant themes that constantly appeared from the raw interview data (Appendix D and E). In presenting the raw interview data the researcher used narration(s) from participant(s) that represent what all or most participants said in relation to a given theme. The themes were compared for analysis and the comparisons were done to ascertain whether the themes developed from the interview data corroborate or otherwise with the outcomes from previous studies (Chapter Four). The results of the qualitative data were displayed in narrated quotations.

Chapter Summary

The study adopted the mixed methods approach and the study setting was Cape Coast Teaching Hospital. A census was used to select all 153 nurses working in the Male Medical Ward, Female Medical Ward, Dialysis Unit and the Renal Clinic of the hospital, while purposive sampling technique was used to choose six doctors who were involved in CKD treatment in the hospital. In addition, 68 patients with kidney diseases were purposively selected for the study. Data was collected using a questionnaire and a semi-structured interview guide. The questionnaire was used to collect data from nurses (quantitative phases), whereas the semi-structured interview guide gathered data from both doctors and patients (qualitative phase). Two separate interview guides were designed for doctors and patients.

After observing ethical standards of research, data was collected solely by the researcher within a period of five days (27th to 31st May, 2019). Overall, 18 patients and five doctors were interviewed to reach saturation, while 146 nurses responded to the study. Interviews were audio-recorded and they were recorded ones. Interviews for all participants range from 10 to 30 minutes. Quantitative data obtained from the questionnaires were coded and analysed with the help of IBM SPSS for windows, version 23. Prior to selecting the suitable measure of central tendency and dispersion to be to analyse the quantitative data from nurses, the researcher tested for normality in sample, as recommended by Adam (2018). One-sample t-test was employed to ascertain whether the sample is significantly different from the known difference in mean. In analysing the interview data, the writer employed the constant comparison analyses propounded by Glaser and Strauss (1967).

CHAPTER FOUR

RESULTS AND DISCUSSION

Introduction

The present study sought to examine nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease at Cape Coast Teaching Hospital in Ghana. First and foremost, this chapter presented and discussed the results on the demographic characteristics of respondents, namely nurses, doctor and patients with end-stage kidney disease, employing frequencies and percentages. The chapter continued by exploring the knowledge of nurses, doctors and patients on conservative management of patients with end-stage kidney disease.

Subsequently, existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease were assessed. Successively, the chapter explored the experiences of patients with end-stage kidney disease who are on dialysis. Afterwards, barriers to the practice of conservative management in patients with end-stage kidney disease were identified.

Presentation of Results

Demographic Characteristics of Nurses

Table 5: Demographic Characteristics of Nurses

Particulars		Frequency	Percent
Age	20-25 years	22	15.1
	26-30 years	88	60.3
	31-35 years	30	20.5
	41-45 years	6	4.1
Gender/Sex	Male	32	21.9
	Female	114	78.1
Current Ward	Out-Patient Department	52	35.6
	Accident and Emergency	2	1.4
	Theatre	2	1.4
	Dialysis Unit	40	27.4
	Male Medical Ward	26	17.8
	Female Medical Ward	22	15.1
	Blood Allocation Unit	2	1.4
Years worked	Less than 1 year	46	31.5
	1 to 3 years	64	43.8
	> 3 years	36	24.7
Ever worked in Dialysis Unit?	Yes	46	31.5
	No	100	68.5
If yes, how long did you work there?	Less than 1 year	30	20.5
	1 to 2 years	6	4.1
	3 to 5 years	4	2.7
	> 5 years	6	4.1
	Not Applicable	100	68.5

Source: Field survey, Bonsu (2019)

Demographic characteristics of doctors

Table 6: Demographic Characteristics of Doctors

Doctor ID	Age	Sex	What is your current ward?	Years worked in CCTH?	Worked in Dialysis unit?	How long have you worked there?
Doctor 1	28	Female	Male and Female Medical Ward	1 year	Yes	Two months
Doctor 2	27	Female	Female Ward	6 month	Yes	I months
Doctor 3	28	Male	Internal Medicine	6 weeks	No yet, but I have been working with staffs who have knowledge in the management of patients with kidney disease.	-
Doctor 4	30	Male	Male Ward	6 months	No, but I have worked in the medical ward.	-
Doctor 5	26	Female	Female medical ward	8 months	No yet.	-

Source: Field survey, Bonsu (2019)

Demographic characteristics of patients

Table 7: Demographic Characteristics of Patients

Patient ID	Age (Years)	Sex	No. of Dependants	Carer support	Living situation	Employment status	Highest Qualification	Ed.	Current treatment	Duration on Dialysis
Patient 1	41	F	2	Parent: mother	Rented accommodation	Employed: Full-time (Teacher)	Tertiary (UCC)		Incenter hemodialysis	1-2 years
Patient 2	48	M	3	Spouse	Own home	Self-Employed	Tertiary		Incenter hemodialysis	2 years
Patient 3	64	M	4	Spouse	Own home	Pensioner	Tertiary		Incenter hemodialysis	4 years
Patient 4	64	M	2	Spouse	Own home	Pensioner	Tertiary		Incenter hemodialysis	6 weeks
Patient 5	38	F	4	Spouse	Rented accommodation	Self-employed	No education		Incenter hemodialysis	3 weeks
Patient 6	45	F	2	Parent: mother	With family	Self-employed: Petty Trader	Basic		Incenter hemodialysis	3 years
Patient 7	45	M	0	Parent: mother	With family	Student	Basic: JHS		Incenter hemodialysis	1 years, 3 months
Patient 8	38	M	5	Spouse	Own home	Employed: Full-time (Anglogold Ashant-Tarkwa)	Basic		Incenter hemodialysis	0-6 months
Patient 9	14	M	0	Parent: Father	With family	No employed	Basic		Incenter hemodialysis	0-6 months

Table 7, continued

Patient ID	Age	Sex	No. of Dependants	Carer support	Living situation	Employment status	Highest Ed. Qualification	Current treatment	Duration on Dialysis
Patient 10	59	F	2	Siblings	Rented Accommodation	Employed: Teacher	Secondary	Incenter hemodialysis	1-2 years
Patient 11	23	F	0	Siblings	With family	Not employed	Secondary	Incenter hemodialysis	1-2 years
Patient 12	49 yrs.	M	7	Siblings	Own home	Pensioner	Secondary	Incenter hemodialysis	1-2 years
Patient 13	55 yrs.	F	3	Siblings	Own home	Self-employed	Secondary	Incenter hemodialysis	2 years
Patient 14	39 yrs.	M	1	Spouse	Own home	Employed: Full time	Tertiary	Incenter hemodialysis	4 months
Patient 15	70 yrs.	M	7	Grandchildren	Own home	Not employed	No education	Incenter hemodialysis	One week
Patient 16	50 yrs.	M	4	Spouse	Own home	Employed: Full-time	Secondary	Incenter hemodialysis	0-6 months
Patient 17	76 yrs.	M	6	Spouse	Own home	Retired/Pension	Tertiary	Incenter hemodialysis	3-5 yrs.
Patient 18	40 yrs.	F	2	Spouse	With family	Employed: Full-time	Tertiary	Incenter hemodialysis	7-12 months

Source: Field survey, Bonsu (2019)

Knowledge on nurses on conservative management of end-stage kidney disease**Table 8: One-Sample T-Test of Nurses' Knowledge on Conservative Kidney Management (n=146)**

SN	Statements/Indicators	Mean	SD	t-value	df	p-value
B01	The ideal time to initiate advance care planning conversations for CKD patients is before starting dialysis.	3.795	1.297	35.356	145	.000
B02	Conservative care is either chosen or medically advised.	3.740	1.115	40.544	145	.000
B03	Comprehensive conservative care should be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis.	3.493	1.140	37.019	145	.000
B04	Anti-hypertensive therapy for patients with end-stage kidney disease should include an angiotensin-converting enzyme inhibitor (grade A) or an angiotensin receptor blocker in case of intolerance to angiotensin converting enzyme inhibitors (grade D).	3.644	.853	51.622	145	.000
B05	Antihypertensive therapy should include either an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker. Blood pressure should be targeted ...	3.534	.941	45.394	145	.000
B06	A protein-controlled diet (0.80–1.0 g/kg/d) is recommended for adults with end-stage kidney disease.	3.877	1.162	40.312	145	.000
B07	Higher intensities of exercise are no more effective for patients with ESKD disease.	3.822	1.131	40.843	145	.000
B08	For prevention of hypertension, a dietary sodium intake of < 100 mmol/d is recommended, in addition to a well-balanced diet.	3.753	1.048	43.293	145	.000
B09	For hypertensive patients, dietary sodium intake should be limited to 65–100 mmol/d.	3.671	1.064	41.683	145	.000
B10	For patients with anaemia and adequate iron stores, erythropoiesis-stimulating agents should be initiated when the haemoglobin level falls below 100 g/L.	3.658	1.117	39.569	145	.000
B11	For patients with end-stage kidney disease receiving erythropoiesis-stimulating agents, the target haemoglobin level is 110 g/L (grade A). An acceptable haemoglobin range is 100–120 g/L.	3.562	.925	46.547	145	.000
B12	For end-stage kidney disease patients not receiving erythropoiesis-stimulating agents...	3.466	1.011	41.404	145	.000

Table 8, continued

B13	For patients receiving erythropoiesis-stimulating agents, iron should be administered to maintain the following iron indices: ferritin > 100 ng/mL, transferrin saturation > 20%.	3.548	.955	44.903	145	.000
B14	For ESKD patients, oral iron is the preferred first-line therapy.	3.411	1.263	32.629	145	.000
B15	Depending on physical activity level energy requirement should be 35-45 Kcal (150-190KJ)/kg IBW/d for <60 years 30-35 Kcal (130-150KJ)/kg IBW/d for >60 years' energy from CHO approximately 50-60% energy from Fat approximately 30-35%.	3.206	.846	45.770	145	.000
B16	Encouraged Mono and poly-unsaturated fats, Saturated fats <10% of energy and Cholesterol <300mg/d.	3.384	.977	41.829	145	.000
B17	If hypertension or oedema is present, approximately 80mmol/d (no added salt) is recommended for patients. Also, patients may need lower sodium intake if severe oedema is present (e.g. 50mmol/d) and may need higher sodium intake in patients...	3.700	1.033	43.261	145	.000
B18	Encourage High fibre diet, i.e. 30-40g fibre/d.	4.000	1.076	44.902	145	.000
B19	Short-acting sulfonylureas (e.g., gliclazide) are preferred over long-acting agents in patients with diabetes.	3.534	1.077	39.635	145	.000

Source: Field survey, Bonsu (2019)

Knowledge of doctors on conservative management of patients with end-stage kidney disease:

1) Ideal time to initiate advance care planning conversations for CKD patients

The doctors shared their opinion regarding the ideal time to initiate advance care planning conversations for patients with CKD. Their opinions were expressed in the narrations below:

“Immediately, depending on the stage of the patient after calculating their GFR: Stage 1 to 4 is ideal” (Doctor 1).

“Before they get into the end-stage of their kidney disease: Before they get to stage 3 or 4 there about” (Doctor 2).

“At stage 3b and stage 4, conservative care could be recommended for patients with CKD” (Doctor 3, Male).

“Immediately we sense that a patient has a kidney disease, we do well to manage it conservatively so that the patient does not get to the end-stage, by considering the patients’ presentations” (Doctor 4).

“Right after they are diagnosed with kidney disease, somewhere around stage 2 or 3” (Doctor 5, Female).

2) Is conservative care either chosen or medically advised?

Afterwards, the doctors expressed their views as to whether conservative care is chosen by the patients or medically advised by the doctors. Their views were revealed in the quotations below:

“In our facility, we hardly recommend conservative care for patients with ESKD. Usually, they go through dialysis and they get well. The dialysis machine has been designed to function as a kidney... However, if the patient insists on conservative care or go home, we allow him/her. We advise but the patient makes the choice” (Doctor 1).

“We don’t usually discuss CM with the patients, because, by the time the patients visit the hospital for treatment, they are already in the end-stage of their kidney diseases...” (Doctor 2).

“I think it depends on the stage. If it is at end-stage, then the patient has no options other than dialysis. But, if the patient is at stage 2 or 3, we could consider CM” (Doctor 5).

“... The only problem is that some patients are unable to finance the bills associated with the dialysis ...” (Doctor 1).

“...However, the few that come earlier are given conservative care, especially when they don’t have the financial muscles to afford the dialysis treatment” (Doctor 2).

“...Finance is one factor, because, once the patients start the treatment, he/she has to follow-up or become consistent with it. So, we usually give the patients the two options to choose from, as the dialysis procedure is cost intensive compared to the conservative care” (Doctor 3).

“...Other factors are also considered before the decision is made, for instance, related sicknesses” (Doctor 2).

“It will still depend on the laboratory findings. If their renal function test results show that they don’t need dialysis, then we shall recommend CM. In that case, we shall give put them on drugs, diet change, and management of other complications...” (Doctor 4).

3) Should comprehensive conservative care be provided as an option for patients unlikely to benefit from dialysis?

Subsequently, doctors were asked to share their views whether comprehensive conservative care should be provided as a viable, quality treatment option for patients who are unlikely to benefit from dialysis. They responded in the narrations as follows:

“Yes, because, evidence suggests that patients benefiting from conservative care stay quite longer before they die, so it is somehow positive...” (Doctor 1).

“...We recommend this option for patients who can afford the dialysis, as health insurance doesn't cover for such diseases” (Doctor 1).

“Yes, particularly when they can't afford the dialysis treatment” (Doctor 2).

“Certainly, especially when they do not have the financial muscles to undertake the dialysis treatment” (Doctor 3).

“...if the patient is financial constrained, then, we have no choice than to choose the CM” (Doctor 4).

“Sure, particularly when the patient is not at the end-stage of the kidney disease” (Doctor 4).

“Yes, essentially when the patient is at stage 2 or 3 of the disease” (Doctor 5).

Knowledge of patients on conservative management of end-stage kidney disease:

1) Frequent health walks

The patients with end-stage kidney diseases also shared their knowledge on the conservative management of kidney diseases. Their expressions were narrated below:

“Excising regularly by walking most of the time” (Patient 1).

“I have been informed to walk often times, as it is good for my health” (Patient 7).

2) Dietary and water intake

Furthermore, the patients with kidney diseases expressed their knowledge regarding the nutritional requirement and the recommended level of

water intake by the nurses and doctors. Their expressions were put forward in the quotations below:

“I am given information on feeding, water intake, and intake of enough fruits” (Patient 8).

“I have been informed on the appropriate amount of water to take on a daily basis. Also, I have been tutored on the type of food to eat, to ensure my wellness and long life” (Patient 16).

“I have been informed to drink at least four sachets of water daily” (Patient 15).

3) Drug intake

Aside the dietary and water intake, the patients with kidney diseases expressed their knowledge regarding drug intake recommended by the nurses and doctors. They conveyed their knowledge in the following narrations:

“I have also been given instructions on my medications or drug intake” (Patient 4).

“I am also given information on my drug intake” (Patient 10).

“I am also informed on my medications” (Patient 18).

Existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease:

Existing practices of nurses on conservative management of patient with end-stage kidney disease

Table 9: One-Sample T-Test of Existing Practices of Nurses on CM of Patients with ESKD (n=146)

SN	Statements/Indicators	Mean	SD	t-value	df	p-value
C01	Nurses administer erythropoietin (EPO) and iron therapy for patients with end-stage kidney disease, as prescribed.	3.932	1.235	38.452	145	.000
C02	Nurses undertake symptoms assessment and management for patients with end-stage kidney disease.	3.808	1.283	35.869	145	.000
C03	Nurses provide dietary advice for patients with end-stage kidney disease.	4.027	1.037	46.933	145	.000
C04	Nurses administer prescribed medication for renal symptoms (fluid retention, itching etc.) to patients with end-stage kidney disease.	4.000	1.209	39.972	145	.000
C05	Nurses provide clinic consultations for patients with end-stage kidney disease.	3.055	1.437	25.680	145	.000
C06	Nurses provide telephone support for patients with end-stage kidney disease.	3.288	1.281	31.012	145	.000
C07	Nurses provide communication with primary care team for patients with end-stage kidney disease.	3.877	1.162	40.312	145	.000
C08	Nurses provide telephone support for careers of patients with ESKD.	3.356	1.333	30.432	145	.000
C09	Nurses provide advanced care planning for patients with end-stage kidney disease.	3.699	1.171	38.173	145	.000
C10	Nurses conduct social circumstances review for patients with end-stage kidney disease with the help of social workers attached to the renal centre or hospital.	3.425	1.150	35.991	145	.000
C11	Nurses provide psychological support for patients with end-stage kidney disease.	4.082	1.034	47.706	145	.000
C12	Nursing staff in CCTH conduct home visits to patients with end-stage kidney disease.	2.973	1.349	26.625	145	.000
C13	Nurses provide advice on home environment to patients with end-stage kidney disease.	3.740	1.232	36.676	145	.000

Source: Field survey, Bonsu (2019)

Existing practices of doctors on conservative management of patient with end-stage kidney disease:

1) managing comorbidities associated with the kidney disease

The medical doctors expressed their know-how regarding the management of comorbidities that are associated with the end-stage kidney disease. They put forward their knowledge in a couple of sentence below:

“If we are aware of the cause of the ESKD (for instance, diabetics and hypertension), we will manage those causative factors so that the kidney disease doesn’t progress fast and that is what we keep doing for those who are in stage one to stage four...” (Doctor 1).

“...managing the other comorbidities associated with the disease, such as hypertension and diabetes” (Doctor 2).

“...Furthermore, one has to control for any modifying risk factor that the patient has. Then, we manage any complications associated with the ESKD...” (Doctor 3).

“...we have to control for the comorbidities, such as hypertension, possible anaemia and acidosis...” (Doctor 4).

“Managing hypertension, acidosis, and anaemia. In other words, controlling the complications associated with the kidney disease” (Doctor 5).

2) diet modification and drug recommendation

Another constant theme that emerged from the transcribed interview text from the doctors was dietary modification and drug recommendation. This theme was put forward by four doctors, as follows:

“...We also recommended diet modification...” (Doctor 1).

“I know about the recommended diet, drugs like anti-directives” (Doctor 2).

“...not forgetting the dietary counselling offered to the patient...” (Doctor 3).

“...and also give them calcium supplements, folic acid etc.” (Doctor 4).

3) treatment for patients who have anaemia

The doctors were subsequently asked to state the specific treatments they give to patients with chronic kidney diseases who are anaemic. In responds to this question, they provided the following narrations:

“...We encourage blood transfusion for anaemic patients with ESKD, as they require enough blood due to their infected kidney. We also encourage iron injection for anaemic patients to keep their HB at normal level...” (Doctor 1).

“For anaemia, it will depend on their blood level. If their HB is very low, they might require blood transfusion. If not too low, then we can give them iron supplements...” (Doctor 4).

“We give them erythropoiesis for anaemia...” (Doctor 2).

“...If their BP is okay, we can also give them erythropoiesis...” (Doctor 4).

“For anaemia, we usually give them erythropoiesis...” (Doctor 5).

4) treatment for patients who have hypertension

Finally, the doctors were requested to mention the specific treatments they give to patients with chronic kidney diseases who have hypertension. The doctors expressed their knowledge in the narrations below:

“...You can use the ARBs...” (Doctor 3).

“...we can use the ARBs...” (Doctor 4).

Experiences of patients with end-stage kidney disease who are on dialysis:

1) Emotional experiences with the condition

The patients with end-stage kidney disease were asked to disclose their emotional experiences with the condition. In response to this question, they stated that:

“I am unhappy” (Patient 1).

“...I feel sad sometimes” (Patient 2).

“I cry sometimes due to my condition. I even cried this morning”
(Patient 5).

“I am usually filled with sadness” (Patient 7).

“I feel sad leaving my children home and finding myself always in the hospital” (Patient 8).

“I am saddled with sadness due to my young age” (Patient 9).

“I feel sad for myself” (Patient 10).

“I do cry, sometimes because I am not able to accomplish my vision due to the sickness” (Patient 12).

2) Physical experiences with the condition

Moreover, the patients with end-stage kidney disease were requested to disclose their physical experiences with their disease. In answering this question, they indicated that:

“I experience body pains” (Patient 1).

“I have waist problems” (Patient 3).

“...I am not able to go to church. I am always indoors” (Patient 4).

“Before the illness, I was strong, but now, I feel weak...” (Patient 6).

“The sickness has made me incapable of going to work” (Patient 7).

“I feel weak and am not able to walk properly due to the disease”
(Patient 8).

“I am faced with physical stress. I am also not able to breathe properly” (Patient 9).

“I am unable to go to work because I feel weak most of the time”
(Patient 10).

“I am not fit as I used to be” (Patient 12).

“Physically, I feel weak hence I am not able to visit places” (Patient 13).

“I am not fit so I am not able to run my usual errands. I was a Kente weaver, but, upon doctor’s advice I have stopped, obviously because of my condition” (Patient 15).

“The disease has affected my health...I am not able to go to church”
(Patient 17).

“I always feel tired and sick. As such, I am not able to go to work and other far places” (Patient 18).

3) Financial experiences with the condition

The patients with end-stage kidney disease were asked to tell their financial experiences with their condition. They responded in the following narrations:

“The condition is a drain in my finances, as a retiree” (Patient 4).

“...It hasn’t been easy paying for the bills” (Patient 5).

“I am not able to do my petty trading anymore so my financial situation is not good. It is not easy paying for my bills” (Patient 6).

“I have become a financial burden to my mother” (Patient 7).

“The sickness is a drain on my siblings’ finances” (Patient 11).

“I am facing severe financial difficulties” (Patient 13).

“I have exhausted all my money. If not for my children, it would have been worse” (Patient 15).

“The sickness has put a financial burden on me” (Patient 16).

“The sickness is a drain to my finances” (Patient 18).

“My salary sustains me in my treatment” (Patient 1).

“It is manageable” (Patient 2).

“It is okay by me. I use my monthly pension funds to settle my financial needs” (Patient 3).

“Fortunately, my employer seems to care about me. They pay my bills as if I were still working” (Patient 8).

“...My children are now managing my business and they make some profit to pay my bills...” (Patient 12).

“For now, there is resource for it, but, maybe as time goes on it may be a problem” (Patient 14).

4) Social experiences with the condition

Besides, the patients with end-stage kidney disease were asked to unveil their social experiences with the disease. As an answer to this question, they stated that:

“I am not able to report to work as expected hence am not able to get in touch with my friends” (Patient 1).

“As it stance, I am not able to walk properly, limiting my ability to go to church or other social gatherings...” (Patient 3).

“It is a very bad experience” (Patient 13).

5) Psychological experiences with the condition

Finally, the patients shared their psychological experiences associated with the end-stage kidney disease. They put forward that:

“I have come to accept my situation because there is not much I can do for myself anymore” (Patient 6).

“It is not a pleasant experience. At some point, I wished I was dead but I was encouraged to be hopeful and that things will be better. So, psychologically, I am a bit okay now” (Patient 7).

“It is okay, as am getting used to the sickness” (Patient 14).

“The future is uncertain and looks terrible for me, but maybe there is still hope for tomorrow” (Patient 16)

Patients' experiences with the dialysis procedure:

1) Dialysis procedure is time consuming

The patients expressed their views regarding their experiences with the dialysis procedure. They narrated that:

“It is okay, except for the long hours spent sitting on the machine”
(Patient 2).

“I sit for long hours (4 hours) on this machine...” (Patient 3).

“I have back aches due to the long hours on the machine” (Patient 5).

“I usually have backaches, after long hour on the machine”
(Patient 12).

“It is ... time consuming” (Patient 14).

“...Also, it is time consuming. I have to sit on the machine for several hours” (Patient 15).

“It is time consuming” (Patient 17).

2) Dialysis procedure is painful and tiresome

Aside being time consuming, the dialysis procedure was viewed as stressful and tiresome by a section of the patients, who expressed their views in the narrations below:

“The dialysis machine is ... painful” (Patient 8).

“It is painful...” (Patient 9).

“The procedure is very painful and tiresome” (Patient 10).

“It is tiresome...” (Patient 14).

“Initially, the injection needle was painful, but now, it is painless”
(Patient 16).

“Very painful, stressful, and tiresome” (Patient 18).

3) *Dialysis procedure is user-friendly*

In spite of the disconformities associated with the dialysis procedure, some of the patients had a different opinion. Their different opinion was expressed in the narrations below:

“The dialysis procedure is okay. It is user-friendly” (Patient 1).

“It is okay. If not for the machine, my situation would have been worse” (Patient 6).

“It is okay. The injection is painless. The machine is manageable” (Patient 7).

Barriers to the practice of conservative management in patients with end-stage kidney disease:

1) *Conservative management does not function as a kidney*

The doctors expressed their views whether conservative management can play the role of a kidney. They put forward their expressions in the quotations below:

“CKM only reduces the rate at which the disease progresses, it does not function as a kidney” (Doctor 1).

“Probably the outcome, because, we have realised that patients, who are on dialysis do better than those who are cared for conservatively” (Doctor 4).

2) *Conservative management does not help at stage 5 of the kidney disease*

The doctors also expressed their opinions as to whether conservative management is helpful at stage 5 of the kidney disease. They expressed their opinions in the following narrations:

“...at stage 5 ESKD, conservative care does not provide any significant benefit to the patient” (Doctor 1).

“Ones the patient is at the end-stage of the disease, it becomes inappropriate to manage them conservatively, because, their condition is already worsened...” (Doctor 3).

“CM does not help when the patient is at end-stage (stage 5), because, at that stage, the kidney is near or almost deteriorated. Dialysis is a better option in such cases, because, it offers support to the affected kidney” (Doctor 5).

3) Lack of trained nephrologist nurses and doctors

Last, but not the least, one of the barriers to the practice of conservative management of patients with kidney disease was the lack of trained nephrology nurses and doctors in the hospital. This was evident in the doctors’ quotations below:

“No formal training has been given to both doctors and nurses on nephrology, but, indirectly both nurses and doctors receive some on-the-job training regarding the use of drugs, transfusion etc. while managing the patients” (Doctor 1).

“I don’t really no. For my team, there is not nephrologist, but I don’t know for the other teams” (Doctor 2).

“None that I am aware of” (Doctor 3).

“I don’t know of any formal nephrologist, but, the head of renal centre is an internal medicine specialist” (Doctor 4).

“None that I know of” (Doctor 5).

Discussion

Demographic Characteristics of Nurses

From Table 4, it was evident that, of the 146 nurses who participated in the study, a majority of 88 nurses (60.3%) were within the ‘26-30 years’ age category, followed by ‘31-35 years’ (20.5%), then, ‘20-25 years’ (15.1%). Only six nurses were within the ‘41-45 years’ age group. The results evinced that a

vast majority of the nurses were 26 years and above (n=124, 84.93%) and, therefore, were matured enough to make informed contributions to the current study. Considering the gender/sex of nurses, it came to light that the nurses were dominated by females. Females were 114 (78.1%) in number, while the males were 32 (21.9%).

Further results indicated that most of the nurses worked in the Out-Patient Department (n=52, 35.6%), followed by the Dialysis Unit (n=40, 27.4%), then, Male Medical Ward (n=26, 17.8%) and Female Medical Ward (n=22, 15.1%). Only a small number of nurses worked at Accident and Emergency, (n=2, 1.4%), Theatre (n=2, 1.4%) and Blood Allocation Unit (n=2, 1.4%) of the hospital (Table 4). Further analysis showed that most of the nurses have worked in Cape Coast Teaching Hospital for '1 to 3 years' (n=64, 43.8%), followed by 'less than 1 year' (n=46, 31.5), and '>3 years' (n=36, 24.7%), insinuating that a vast majority of the nurses have worked in the hospital for more than 1 year (n=100, 68.5%).

Consequently, the nurses can be deemed to have gathered some working experience at the hospital, which was necessary to make valuable contributions to the current study. Moreover, the researcher wanted to know how many nurses have worked in the dialysis unit. It came to light that few nurses have had the opportunity to work in the dialysis unit (n=46, 31.5%), as majority of them gave a negative response to the question (n=100, 68.5%). Subsequent assessment showed that, out of the few nurses who have worked in the dialysis unit of the hospital (n=46), most of them have worked in the unit for less than 1 year (n=30), implying that, generally, the nurses lack adequate working experience in the dialysis unit, and this could negatively affect their knowledge and practice

of conservative management of patients with end-stage kidney disease (Table 4).

Demographic Characteristics of Doctors

This section described the demographic characteristics of doctors working in the Dialysis and Medical Wards of CCTH. From Table 5, it can be deduced that among the five doctors, the youngest age was 26 years and the oldest was 30 years, signalling that the doctors working in the Dialysis and Medical Wards were within the age group of 26-30 years, and this outcome was consistent with the age characteristics of the nurses, as majority of the nurses (n=88, 60.3%) were within the same age group. Therefore, based on the age classification recommended by Yarlagadda, Murthy and Prasad (2015), the doctors can be classified as young adults.

Considering the gender/sex of the doctors, it was disclosed that three of them were females, while the remaining two doctors were males, implying that the doctors were dominated by females. Again, this discovery looked similar to the gender distribution of the nurses, where they were dominated by female nurses. Further examination showed that most of the doctors currently work at the Medical Wards of the hospital. With respect to working experience, it was discovered that the five medical doctors have worked in the hospital for at most one year, signaling that they have less working experience in CCTH (Table 5).

Additional analysis showed that two of the doctors have worked in the dialysis unit, whereas the remaining three doctors are yet to work in the dialysis unit of CCTH. This finding insinuates that, at least, some of the doctors have interacted with CKD patients. Last, but not the least, the findings showed that

the two doctors who have worked in the dialysis unit worked there for less than three months (Table 5).

Demographic Characteristics of Patients

The demographic characteristics of patients were shown in this section. Table 6 revealed that, of the 18 patients interviews, a vast majority of the patients were 38 year and above (n=16), while only two of the patients were below 24 years. Hence, based on the age classification recommended by Yarlagadda et al. (2015), the results suggested that only two of the patients were young adults (16 to 30 years), whereas most of patients were middle-aged adults (31 to 50 years) and senior adults (>50 years). Generally, their age ranged from 14 to 76 years. This discovery looked similar to the study by Osafo et al. (2011) in 712 CKD patients with known hypertension in four polyclinics in Accra, where the researchers found that the age group of the patients was 19 to 90 years.

Regarding the sex of the patients, 11 were males, while the remaining seven were females, suggesting that the patients were dominated by males. Subsequent investigation connoted that most of the patients had dependents (n=15), while a few of them (n=3) had no dependant. Moreover, most of the patients received carer support from their spouse (n=9), followed by siblings (n=4) and parents (n=4) and, finally, grandchildren (n=1). With respect to their living situations, most of the patients were living in their own homes (n=10), followed by those living with their families (n=5) and, finally, those who lived in rented accommodations (n=3).

It is likely that the patients living in their own homes earned better income and this could influence the results, as they may be in a better position

to access dialysis and pay for drugs. The situation may be different for the patients living with their families, who may be low income earners. Considering the employment status of the patients, it came to light that six of them were employed, four were self-employed, four were pensioners, three were not employed, and one was a junior high school student (Table 6).

Regarding the highest education qualification of the patients, the results showed that seven patients have had tertiary education, five patients have had secondary education, four patients have had basic education, and the remaining two patients have had no formal education. All the 18 patients were receiving In-center hemodialysis treatment in the hospital, and this finding looked dissimilar from the study by Morton et al. (2010) in Australia, where few patients (n=8) were on in-center hemodialysis therapy. In-center hemodialysis is when a person goes to the dialysis centre for their hemodialysis treatments. Hemodialysis is a treatment that filters the blood of wastes and extra fluid when the kidneys are no longer able to perform this function.

As at the time of interview, none of the patients have had access to transplant, as another option to managing end-stage kidney disease. This outcome also contradicted the study by Morton et al. (2010), where 18 patients had a functioning transplant at the time of interview. Finally, Table 6 showed that eight patients have been on the dialysis therapy for less than 1 year, seven patients have been on the therapy for 1 to 2 years, and the remaining three patients have been on the therapy for 3 years and above.

Knowledge on Nurses on Conservative Management of End-Stage Kidney Disease

For the purposes of exploring the knowledge of nurses on conservative management of end-stage kidney disease, 19 indicators/statements were measured on a five point Likert-like scale with 1=strongly disagree, 2=disagree, 3=moderately agree, 4=agree, 5=strongly agree. These scores were generalised based on nurses' views regarding each of the positive statements under "Knowledge of Conservative Kidney Management" on the questionnaire. The cut-off point for the scale was arrived at using the mean of the scale minus 0.1, as used by earlier researchers (Amissah, 2017; Yeboah, 2013). As such, a mean range of 1.0 to 2.9 suggests *disagreement* from respondents, while a mean range of 3.0 to 5.0 suggests *agreement* from respondents.

As indicated in Table 7, it was revealed that the statements that measured nurses' knowledge on conservative kidney management were within the mean range of 3.2 to 4.0, signalling respondents' *agreement* to those statements. At the same time, the standard deviation of the statements ranged from .846 to 1.297, suggesting *low variability* in the nurses' opinions. In addition, Table 7 showed that all the statements that measured nurses' knowledge on conservative kidney management were statistically significant at a confidence level of 95%, because, the t-values were greater than 1.96. In other words, the p-values were less than 0.05.

The specifications of the statements are: (1) The ideal time to initiate advance care planning conversations for CKD patients is before starting dialysis [M=3.795, SD=1.297, $t(145)= 35.356$, $p=.000$, 2-tailed], (2) Conservative care is either chosen or medically advised [M=3.740, SD=1.115, $t(145)= 40.544$,

$p=.000$, 2-tailed], (3) Comprehensive conservative care should be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis [$M=3.493$, $SD=1.140$, $t(145)=37.019$, $p=.000$, 2-tailed], (4) Anti-hypertensive therapy for patients with end-stage kidney disease should include an angiotensin-converting enzyme inhibitor (grade A) or an angiotensin receptor blocker in case of intolerance to angiotensin converting enzyme inhibitors (grade D) [$M=3.644$, $SD=.853$, $t(145)=51.622$, $p=.000$, 2-tailed],

(5) Antihypertensive therapy should include either an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker. Blood pressure should be targeted to < 130 mmHg systolic (grade C) and < 80 mmHg diastolic [$M=3.534$, $SD=.941$, $t(145)=45.394$, $p=.000$, 2-tailed], (6) A protein-controlled diet (0.80 – 1.0 g/kg/d) is recommended for adults with end-stage kidney disease [$M=3.877$, $SD=1.162$, $t(145)=40.312$, $p=.000$, 2-tailed], (7) Higher intensities of exercise are no more effective for patients with end-stage kidney disease [$M=3.822$, $SD=1.131$, $t(145)=40.843$, $p=.000$, 2-tailed], (8) For prevention of hypertension, a dietary sodium intake of < 100 mmol/d is recommended, in addition to a well-balanced diet [$M=3.753$, $SD=1.048$, $t(145)=43.293$, $p=.000$, 2-tailed],

(9) For hypertensive patients, dietary sodium intake should be limited to 65 – 100 mmol/d [$M=3.671$, $SD=1.064$, $t(145)=41.683$, $p=.000$, 2-tailed], (10) For patients with anaemia and adequate iron stores, erythropoiesis-stimulating agents should be initiated when the haemoglobin level falls below 100 g/L [$M=3.658$, $SD=1.117$, $t(145)=39.569$, $p=.000$, 2-tailed], (11) For patients with end-stage kidney disease receiving erythropoiesis-stimulating agents, the target

haemoglobin level is 110 g/L (grade A). An acceptable haemoglobin range is 100–120 g/L [M=3.562, SD=.925, $t(145)=46.547$, $p=.000$, 2-tailed],

(12) For end-stage kidney disease patients not receiving erythropoiesis-stimulating agents and with a haemoglobin level < 110 g/L, iron should be administered to maintain the following iron indices: ferritin > 100 ng/mL and transferrin saturation > 20% [M=3.466, SD=1.011, $t(145)=41.404$, $p=.000$, 2-tailed], (13) For patients receiving erythropoiesis-stimulating agents, iron should be administered to maintain the following iron indices: ferritin > 100 ng/mL, transferrin saturation > 20% [M=3.548, SD=.955, $t(145)=44.903$, $p=.000$, 2-tailed], (14) For ESKD patients, oral iron is the preferred first-line therapy [M=3.411, SD=1.263, $t(145)=32.629$, $p=.000$, 2-tailed],

(15) Depending on physical activity level energy requirement should be 35-45 Kcal (150-190KJ)/kg IBW/d for <60 years 30-35 Kcal (130-150KJ)/kg IBW/d for >60 years' energy from CHO approximately 50-60% energy from Fat approximately 30-35% [M=3.206, SD=.846, $t(145)=45.770$, $p=.000$, 2-tailed], (16) Encouraged Mono and poly-unsaturated fats, Saturated fats <10% of energy and Cholesterol <300mg/d [M=3.384, SD=.977, $t(145)=41.829$, $p=.000$, 2-tailed], (17) If hypertension or oedema is present, approximately 80mmol/d (no added salt) is recommended for patients. Also, patients may need lower sodium intake if severe oedema is present (e.g. 50mmol/d) and may need higher sodium intake in patients with salt-losing nephropathy [M=3.700, SD=1.033, $t(145)=43.261$, $p=.000$, 2-tailed],

(18) Encourage High fibre diet, i.e. 30-40g fibre/d [M=4.000, SD=1.076, $t(145)=44.902$, $p=.000$, 2-tailed], and finally, (19) Short-acting sulfonylureas (e.g., gliclazide) are preferred over long-acting agents in patients

with diabetes [$M=3.534$, $SD=1.077$, $t(145)=39.635$, $p=.000$, 2-tailed]. In the light of the above discussion, the results indicated that nurses at Cape Coast Teaching Hospital have considerable knowledge on conservative kidney management, as they agreed to all the positive statements presented to them.

Knowledge of Doctors on Conservative Management of Patients with End-Stage Kidney Disease

In exploring the knowledge of doctors on conservative management of end-stage kidney disease, transcribed interview text was categorised based on the three themes that “constantly” emerged from the data. The three themes are discussed as follows.

1) Ideal time to initiate advance care planning conversations for CKD patients

According to the doctors, the best time to initiate advance care planning for patients with CKD is as soon as the patient is diagnosed of having kidney disease. Therefore, conservative management is deemed to be appropriate at the early stages of the kidney disease, preferably, from Stages 1 to 4 and this is revealed after considering the patients’ presentations, such as calculating their eGFR. This outcome confirmed the views of nurses, as demonstrated in their responses to the questionnaire. The nurses expressed their agreement that the ideal time to initiate advance care planning conversations for CKD patients is before starting dialysis (Mean=3.795, $SD=1.297$, $t(145)=35.356$, $p=.000$, 2-tailed).

2) Is conservative care either chosen or medically advised?

Moreover, the doctors expressed their views as to whether conservative care is chosen by the patients or medically advised by the doctors. It came to light that the doctors hardly advise patient to opt for conservative care, however, if the patients opts for it, then, they give them such treatment. This outcome resembles to the study by van de Luijtgarden et al. (2013) in Europe, where the authors revealed that patient preference (93%) was considered extremely or quite important in the nephrologists' decision to provide conservative care. The doctors' reason for prioritizing renal replacement therapy was that, from past experience, patients with CKD get better upon choosing the renal replacement therapy, as it is functions as a kidney to support the patient's kidney.

This finding is consistent with the study by van de Luijtgarden et al. (2013) in Europe, where nephrologists offered conservative care in only 10% of their patients. Moreover, this outcome agrees with the study by Verberne et al. (2016) in the Netherlands, where the researchers disclosed that median survival of those choosing RRT was higher than those choosing CM. The doctors also declared that, often times, they do not advice patients to seek conservative care, because, most the patients are, usually, already at the end-stage of the kidney disease before arriving at the hospital, connoting that the stage of the kidney disease is also a factor that is considered in choosing conservative care.

The transcribed interview text with doctors further showed that the patients, who opt for conservative care, are usually those who cannot afford the bills associated with the dialysis procedure. Last but not the least, the doctors revealed that laboratory findings or related sicknesses are also considered in choosing conservative care or RRT in patients with CKD. This discovery is

comparable to the study by van de Luijtgaarden et al. (2013) in Europe, where the authors revealed that severe clinical conditions (93%), vascular dementia (84%) and low physical functional status (75%) were considered extremely or quite important in the nephrologists' decision to provide conservative care.

Gleaning from the views of doctors, it can be deduced that conservative care can either be chosen by the patients for several reasons, such as finance or medically advised by the doctor, particular when the patient is at the early stages of the kidney disease, by managing the patients' comorbidities. This conclusion parallel's the views of nurses that conservative management can either be chosen or medically advised.

3) Should comprehensive conservative care be provided as an option for patients unlikely to benefit from dialysis?

Subsequently, doctors were asked to share their views whether comprehensive conservative care should be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis. The doctors expressed their affirmation to this question, clarifying that patients receiving conservative care stay quite longer before they die. This assertion was put forward by Doctor 1. This finding is equivalent to the opinion of nurses, as they expressed their agreement to that assertion that "Comprehensive conservative care should be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis" on the questionnaire (Mean=3.493, SD=1.140, $t(145)= 37.019$, $p=.000$, 2-tailed).

The doctors added that they recommend conservative care, particularly for patients who cannot afford dialysis, as dialysis is cost intensive and health insurance does not cover such kidney diseases. This statement was put forward

by Doctor 1 to 4. In addition, other doctors recommended conservative kidney management for patients who are in the early stage of the kidney disease, preferably, stages 2 or 3. This statement was declared by Doctors 4 and 5. Again, this result confirmed the views of nurses that the ideal time to initiate advance care planning conversations for CKD patients is before starting dialysis (Mean=3.795, SD=1.297, $t(145)=35.356$, $p=.000$, 2-tailed).

Knowledge of Patients on Conservative Management of End-Stage Kidney Disease:

After exploring the knowledge of nurses and doctors on conservative management of patients with end-stage kidney disease, it was proper to explore the knowledge of patients on conservative kidney management. Transcribed interview texts were grouped based on the three themes that “constantly” emerged from the data. The three themes are discussed as follows.

1) Frequent health walks

Having obtained some information from doctors and nurses about their conditions, the patients with end-stage kidney diseases shared their knowledge on the conservative management of kidney diseases. According to them, a patient with kidney disease is required to exercise regularly by walking often times. This assertion was put forward by Patient 1 and 7.

2) Dietary and water intake

Furthermore, the patients with kidney diseases expressed their knowledge regarding the nutritional requirement and level of water intake recommended by the nurses and doctors, as a way to keep them healthy most of the time. The patients stated that they have been tutored on the kind of diet to

take and the amount of water to drink on a daily basis, to ensure their continuous well-being and long life. Patient 8 and 16 described their knowledge in that manner. In particular, Patient 15 asserted that he has been informed to drink at least four sachets of water on a daily basis.

3) Drug intake

The patients expressed their knowledge that the intake of certain recommended drugs by doctors and nurses are sure to enhance their speedy recovery, although the patients could not mention the names of those drugs. This expression was put forward by Patient 4, 10 and 18.

Existing Practices of Nurses and Doctors on Conservative Management of Patient with End-Stage Kidney Disease

The second objective of this thesis sought to assess the existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease. The existing practices of nurses on CKM were assessed quantitatively using a questionnaire, whereas the existing practices of doctors were assessed qualitatively with the help of an interview guide. First and foremost, the data on the existing practices of nurses were discussed, followed by the existing practices of doctors.

Existing practices of nurses on conservative management of patient with end-stage kidney disease

In investigating the existing practices of nurses on conservative management of patients with end-stage kidney disease, 13 indicators/statements were measured on a five point Likert-like scale, indicating 1=strongly disagree, 2=disagree, 3=moderately agree, 4=agree, 5=strongly agree. These score were

generalised based on nurses' opinions regarding each of the positive statements under "Existing Practices on Conservative Management for Patient with End-Stage Kidney Disease" on the questionnaire.

The cut-off point for this scale was arrived at using the mean of the scale minus 0.1, as used by earlier researchers (Amissah, 2017; Yeboah, 2013). In line with this cut-off point, a mean range of 1.0 to 2.9 suggests *disagreement* from nurses, while a mean range of 3.0 to 5.0 suggests *agreement* from nurses. From Table 8, it can be observed that all the 13 statements/indicators that measured the existing practices of nurses on conservative management of patients with end-stage kidney disease were within the mean range of ≈ 3.0 to 5.0, connoting *agreement* from respondents.

At the same time, the standard deviation of the statements/indicators ranged from 1.034 to 1.437, insinuating that nurses' views were *relatively wide-ranging*. Besides, Table 8 displayed that all the statements/indicators that measured the existing practices of nurses on conservative management of patients with end-stage kidney disease were statistically significant at a confidence level of 95%, because, the t-values were greater than 1.96. In other words, the p-values were less than 0.05.

The details of the statement/indicators are: (1) Nurses administer erythropoietin (EPO) and iron therapy for patients with end-stage kidney disease, as prescribed [M=3.932, SD=1.235, $t(145)= 38.452$, $p=.000$, 2-tailed], (2) Nurses undertake symptoms assessment and management for patients with end-stage kidney disease [M=3.808, SD=1.283, $t(145)= 35.869$, $p=.000$, 2-tailed], (3) Nurses provide dietary advice for patients with end-stage kidney disease [M=4.027, SD=1.037, $t(145)= 46.933$, $p=.000$, 2-tailed], (4) Nurses

administer prescribed medication for renal symptoms (fluid retention, itching etc.) to patients with end-stage kidney disease [M=4.000, SD=1.209, $t(145)=39.972$, $p=.000$, 2-tailed], (5) Nurses provide clinic consultations for patients with end-stage kidney disease [M=3.055, SD=1.437, $t(145)=25.680$, $p=.000$, 2-tailed],

(6) Nurses provide telephone support for patients with end-stage kidney disease [M=3.288, SD=1.281, $t(145)=31.012$, $p=.000$, 2-tailed], (7) Nurses provide communication with primary care team for patients with end-stage kidney disease [M=3.877, SD=1.162, $t(145)=40.312$, $p=.000$, 2-tailed], (8) Nurses provide telephone support for carers of patients with end-stage kidney disease [M=3.356, SD=1.333, $t(145)=30.432$, $p=.000$, 2-tailed], (9) Nurses provide advanced care planning for patients with end-stage kidney disease [M=3.699, SD=1.171, $t(145)=38.173$, $p=.000$, 2-tailed], (10) Nurses conduct social circumstances review for patients with end-stage kidney disease with the help of social workers attached to the renal centre or hospital [M=3.425, SD=1.150, $t(145)=35.991$, $p=.000$, 2-tailed],

(11) Nurses provide psychological support for patients with end-stage kidney disease [M=4.082, SD=1.034, $t(145)=47.706$, $p=.000$, 2-tailed], (12) Nursing staff in CCTH conduct home visits to patients with end-stage kidney disease [M=2.973, SD=1.349, $t(145)=26.625$, $p=.000$, 2-tailed], and finally, (13) Nurses provide advice on home environment to patients with end-stage kidney disease [M=3.740, SD=1.232, $t(145)=36.676$, $p=.000$, 2-tailed]. Gleaning from the opinions of nurses on existing practices on conservative management of patients with end-stage kidney disease, it was revealed that

nurses at Cape Coast Teaching Hospital adhere to existing practices on conservative management of patients with end-stage kidney disease.

Existing practices of doctors on conservative management of patient with end-stage kidney disease

The section sought to assess the existing practices of doctors on conservative management of patients with end-stage kidney disease. In doing so, the data collected from the transcribed interview text were analysed qualitatively, using constant comparison analysis propounded by Glaser and Strauss (1967). In line this, the transcribed interview texts were categorised into four themes that “constantly” emerged from the data. The four themes were discussed as follows:

1) managing comorbidities associated with the kidney disease

The doctors revealed that one of their existing practices on conservative management of patients with end-stage kidney disease was to control for modifying possible risk factor that the patient has after which they manage comorbidities associated with the disease, such as hypertension and diabetes. This theme ran through the quotations submitted by all the five doctors interviewed.

2) diet modification and drug recommendation

Another constant theme that emerged from the transcribed interview test from the doctors was dietary modification and drug recommendation. This theme was put forward by four doctors, Doctor 1 to 4. This finding mirrors the statement made by Okamoto et al. (2015) that, if a patient is managed conservatively, all aspects of standard clinical care could be provided, including

the prescription of relevant medication and diet to control blood pressure and nutritional status.

3) treatment for patients who have anaemia

The doctors were subsequently asked to state the specific treatments they give to patients with chronic kidney diseases who are anaemic. They responded that, for anaemic patients, they often encourage blood transfusion if their BP is very low, as they require enough blood due to their infected kidney. If BP is not too low, the doctors encourage iron injection or iron supplements to keep their HB at normal level. This discovery was prevalent in the narration of doctor 1. Compared to doctor 1, doctor 4 provided a more detailed narration.

This result looked similar to the views of nurses, as they moderately agreed to the declaration that, “for end-stage kidney disease patients not receiving erythropoiesis-stimulating agents and with a haemoglobin level < 110 g/L, iron should be administered to maintain the following iron indices: ferritin > 100 ng/mL and transferrin saturation > 20%” (Statement B12: Mean=3.466, SD=1.011, $t(145)=41.404$, $p=.000$, 2-tailed) in Table 7. The doctors added that, if the anaemic patients’ BP level is normal, they could consider giving them erythropoiesis to manage the anaemia. This was put forward by doctor 2, 4 and 5. This outcome compares well with the opinions of nurses, as they affirmed to the statement that, “for patients with anaemia and adequate iron stores, erythropoiesis-stimulating agents should be initiated when the haemoglobin level falls below 100 g/L” (Statement B10: Mean=3.658, SD=1.117, $t(145)=39.569$, $p=.000$, 2-tailed) in Table 7.

4) treatment for patients who have hypertension

Finally, the doctors were requested to mention the specific treatments they give to patients with chronic kidney diseases who have hypertension. They responded that for hypertensive patients, they recommend the intake of ARBs, that is, angiotensin receptor blockers. This outcome was deduced from the quotes of doctor 3 and 4. This discovery is comparable to the views of nurses by expressing their agreement to the assertion that, anti-hypertensive therapy for patients with end-stage kidney disease should include an angiotensin receptor blocker, as depicted in Table 7 (Statement B4: Mean=3.644, SD=.853, $t(145)= 51.622$, $p=.000$, 2-tailed).

Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis

The third objective of this report sought to explore the experiences of patients with end-stage kidney disease who are on dialysis. For the purposes of achieving this objective, the data collected from the transcribed interview text of patients with ESKD were analysed qualitatively, using constant comparison analysis propounded by Glaser and Strauss (1967). In line the constant comparison analysis, the transcribed interview texts were branded into two broad themes, namely “Patients’ experiences with end-stage kidney disease” and “Patients’ Experiences with the Dialysis Procedure”. Furthermore, sub-themes were identified under each of the two broad themes. The sub-themes that emerged under “Patients’ experiences with end-stage kidney disease” were five in number and they were stated as follows:

1) Emotional experiences with the condition

The patients with end-stage kidney disease were asked to disclose their emotional experiences with their condition. In response to this question, they expressed their feeling of unhappiness and sadness, resulting from their current condition.

2) Physical experiences with the condition

Moreover, the patients with end-stage kidney disease were requested to disclose their physical experiences with their disease. In answering this question, they indicated that the sickness has rendered them incapacitated, as they feel weak and are unable to run their usual errands. This sub-theme was run through the quotations of almost all the patients.

3) Financial experiences with the condition

The patients with end-stage kidney disease were asked to tell their financial experiences with their condition. This question revealed mixed responses from the patients. While a group of patients expressed their financial difficulties (Patient 4, 5, 6, 7, 11, 13, 15, 16, and 18), another category of patients said it was manageable (Patient 1, 2, 3, 8, 12, and 14). Within the first group, Patient 7 and Patient 16's assertions mirrored the finding of Morton et al. (2010) in Australia, where the researchers discovered that "being a burden" was central to treatment choices of patients and their carer.

4) Social experiences with the condition

What is more, the patients with end-stage kidney disease were asked to unveil their social experiences with their disease. As an answer to this question, they stated that the sickness has made them unable to neither mingle with their

friends nor attend social gatherings. This answer was put forward by Patient 1, 3 and 13.

5) Psychological experiences with the condition

Finally, the patients shared their psychological experiences associated with the end-stage kidney disease and they put forward that they have come to accept their health condition, encouraged themselves and hope for the best of recovery. This revelation was found in the quotes of Patient 6, 7, 14 and 16. Observing Patient 16's comment holistically, it came be deduced that the patient seemed to be living in a situation where he is unclear what will happen next. This revelation parallels the result of Morton et al. (2010) in Australia, where the investigator found that "living in limbo" was central to treatment choices of patients and their carer.

Patients' Experiences with the Dialysis Procedure

The sub-themes that emerged under this category were three in number. First of all, the patients' declared that the dialysis procedure is time consuming. Aside being time consuming, the dialysis procedure was viewed as stressful and tiresome by a section of the patients. In spite of the disconformities associated with the dialysis procedure, some of the patients had a different opinion. In their view, the dialysis procedure was user-friendly. This finding was put forward by three patients: Patient 1, 6, and 7.

Barriers to the Practice of Conservative Management in Patients with End-Stage Kidney Disease

The fourth and final objective of this report sought to identify the barriers to the practice of conservative management in patient with end-stage kidney disease. This objective was analysed qualitatively, using interviews with five doctors. Responses from the five doctors revealed that the barriers to the practice of conservative management in patient with end-stage kidney disease were as follows:

1) Conservative management does not play the role of a kidney

The doctors expressed their views by stating that, unlike renal replacement therapy, conservative management does not function as a kidney. It only reduces that speed at which the kidney disease progresses. This statement was deduced from the quotations of Doctor 1 and 4.

2) Conservative management does not help at stage 5 of the kidney disease

Further quotations from the doctors disclosed that conservative management was not suitable for patients who were at their end-stages of the kidney disease. This was manifest in the narrations of Doctor 1, 3 and 5.

3) Lack of trained nephrologist nurses and doctors

Last, but not the least, one of the barriers to the practices of conservative management of patients with kidney disease was the lack of trained nephrology nurses and doctors in the hospital. All the five doctors admitted that there was no formally trained nephrologist in their health facility.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Introduction

This chapter presented the summary of the study, including the key findings arriving from the study. The conclusion drawn and recommendations made were also discussed. The chapter ended with suggestion for future research.

Summary of the Study

This study examined nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease at Cape Coast Teaching Hospital in Ghana. The objectives of the study were to explore the knowledge of nurses, doctors and patients on conservative management of patients with end-stage kidney disease; to assess the existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease; to explore the experiences of patients with end-stage kidney disease who are on dialysis; and to identify barriers to the practice of conservative management in patients with end-stage kidney disease. The mixed methods approach was adopted for this study. For the qualitative phase, interviews were conducted with doctors and patients, while questionnaires administered to nurses formed the quantitative phase.

The study setting was Cape Coast Teaching Hospital. The population of the study was 153 nurses and six doctors working in the Male Medical Ward, Female Medical Ward, Dialysis Unit and the Renal Clinic of the Cape Coast Teaching Hospital. Moreover, the study targeted 68 patients with end stage

kidney disease currently treatment at the hospital, as of July 2018. Data was sourced from the administration division of the hospital. The census method was used to select all the 153 nurses, while the six doctors and 68 patients were purposively selected for the study. However, 146 nurses responded to the questionnaire, while five doctors and 18 patients were interviewed to reach saturation. The selected medical doctors and patients served as key informants of the study.

In order to ensure strict compliance with ethical standards of research, the researcher introduced a clause in the introductory paragraph of the questionnaire and interview guide assuring respondents of anonymity and confidentiality. Further, ethical approval was sought from the management of Cape Coast Teaching Hospital and University of Cape Coast's Institutional Review Board, prior to data collection. Participants were informed about the purpose of the study and confidentiality. The data collected from the questionnaire was analysed using mean, standard deviation and one-sample t-test of IBM SPSS for windows, version 23; while the data collected from the semi-structured interview guide were organised into themes and analysed, using the constant comparison analysis. Interviews for all participants range from 10 to 30 minutes and they were audio recorded. The findings were organized in line with the research objectives.

The first objective of this report sought to explore the knowledge of nurses, doctors and patients on conservative management of patients with end-stage kidney disease. The study found that nurses and doctors possess considerable amount of knowledge on conservative kidney management. Both the doctors and nurses know that the best time to initiate advance care planning

for patients with CKD is as soon as the patient is diagnosed of having kidney disease. Moreover, both nurses and doctors acknowledge that conservative care can either be chosen by the patients for reasons, such as finance or medically advised by the doctor, particular when the patient is at the early stages of the kidney disease, by managing the patients' comorbidities.

Furthermore, the nurses and doctors shared that comprehensive conservative care should be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis. The doctors elucidated that patients receiving conservative care stay quite longer before they die. The doctors added that they recommend conservative care, particularly for patients who cannot afford dialysis, as dialysis is cost intensive and health insurance does not cover such kidney diseases. More so, the doctors recommended conservative kidney management for patients who are in the early stage of the kidney disease, preferably, stages 2 or 3.

On the part of the patients, they are of the known that they are required to exercise regularly by walking often times. The patients were also aware of the need to take large volumes of water and diet modification to ensure their continuous well-being and long life. Additionally, the patients expressed their knowledge that the intake of certain recommended drugs by doctors and nurses will enhance their speedy recovery, although the patients could not mention the names of those drugs.

The second objective of this thesis sought to assess the existing practices of nurses and doctors on conservative management of patient with end-stage kidney disease. The study found that the nurses and doctors adhere to the existing practices on conservative management of patient with end-stage kidney

disease. In particular, they manage comorbidities associated with the disease, such as hypertension and diabetes. Furthermore, they recommend drugs and diet modifications for patients with end-stage kidney disease. The doctors added that they provide separate treatments for patients with anaemia and patients who have hypertension.

For anaemic patients, they often encourage blood transfusion if their BP is very low, as they require enough blood due to their infected kidney. If BP is not too low, the doctors encourage iron injection or iron supplements to keep their HB at normal level. Besides, if the anaemic patients' BP level is normal, they could consider giving them erythropoiesis to manage the anaemia. In treating hypertensive patients, they recommend the intake of Angiotensin Receptor Blockers.

The third objective of this report sought to explore the experiences of patients with end-stage kidney disease who are on dialysis. The study found that patients with end-stage kidney disease were saddled with unhappiness and sadness, resulting from their current condition. The patients also indicated that the sickness has rendered them incapacitated, as they feel weak and are unable to run their usual errands. To add, while a group of patients expressed their financial difficulties resulting from their condition, another category of patients said it was manageable.

Furthermore, the patients stated that the sickness has made them unable to neither mingle with their friends nor attend social gatherings. Regarding their psychological experience, the patients mentioned that they have come to accept their health condition, encouraged themselves and hope for the best of recovery. Considering patients' views on the dialysis procedure, the results were

somewhat contradictory. While some of the patients declared that the dialysis procedure was time consuming, and painful and tiresome; another group, comprising relatively fewer patients stated that the dialysis procedure was user-friendly.

The fourth and final objective of this thesis sought to identify barriers to the practice of conservative management in patients with end-stage kidney disease. The study found that conservative management does not play the role of a kidney. Unlike renal replacement therapy, conservative management does not function as a kidney. It only reduces that speed at which the kidney disease progresses. Also, conservative management does not help a patient, who is at stage 5 of the kidney disease. Finally, the lack of trained nephrology nurses and doctors in the hospital was a barrier to the practice of conservative management in patients with end-stage kidney disease. The above findings supports the Chronic Care Model, which is employed in choosing a treatment method which would lead to healthier patients, more satisfied providers, and provide cost savings for patients.

Conclusions

First of all, the study concluded that nurses, doctors and patients possessed considerable amount of knowledge on conservative kidney management. The study also concluded that nurses and doctors adhere to the existing practices on conservative management of patient with end-stage kidney disease. Moreover, patients with end-stage kidney disease were faced with emotional, financial, social and psychological problems resulting from their health condition. The study further concluded that the dialysis procedure was

time consuming, and painful and tiresome. Furthermore, treatments that minimized confinement and stress were viewed positively by patients.

Additionally, the study concluded that renal replacement therapy is a better option to conservative kidney management, particularly when the patient is at the last stage of the kidney disease. It was also settled that conservative management could be a better option for patients who cannot afford renal replacement therapy, as it reduces that speed at which the kidney disease progresses. Furthermore, the study concluded that patients preferred renal replacement therapies that are timesaving, less painful, and less tiresome. Finally, the study concluded that there was no formally trained nephrologist at Cape Coast Teaching Hospital.

Recommendations

Upon examining nurses, doctors and patients' knowledge and understanding of conservative management of end-stage kidney disease at Cape Coast Teaching Hospital in Ghana, it was appropriate that recommendation are made to improve upon the existing situation. Further training on conservative kidney management is recommended for nurses and doctors to enhance their knowledge on conservative management of end-stage kidney disease, as it would enable them better serve patients with end-stage kidney diseases. Moreover, the study appeals to Government of Ghana through the Ministry of Health to provide interventions to help reduce the emotional, financial, social and psychological difficulties of patients with end-stage kidney disease.

An example could be the initiation of Ghanaian Kidney Fund to give small grants to Ghanaian dialysis and transplant patients based on need so that they can apply for assistance. In addition, supporting renal staff in discussing

conservative management as a valid alternative to dialysis for a subset of patients will aid informed decision making. Finally, the study recommends for management of the hospital to offer sponsorship programmes for both nurses and doctors to study nephrology and use the knowledge acquired to enhance conservative kidney management among patients.

Suggestion for Future Research

Further research should consider investigating the root causes of kidney disease among patients at Cape Coast Teaching Hospital. The suggested study would unveil outcomes that would advise Ghanaians on how to avert such disease.

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APPENDICES

APPENDIX A: INTERVIEW GUIDE FOR DOCTORS

Dear Participant,

The following questions are part of a survey being conducted in partial fulfilment of a thesis of Master of Philosophy in Nursing at the Department of Nursing and Midwifery in the University of Cape Coast on the topic *Conservative Management of End-Stage Kidney Disease at Cape Coast Teaching Hospital*. Findings will inform policy decision concerning conservative kidney management at Cape Coast Teaching Hospital. Your cooperation and support will be appreciated. Information obtained will be treated confidentially and for academic purpose only.

Location:Date of Interview:
Name of Interviewer:
Starting Time:
Ending Time:

Section A: Demographic Characteristics of Doctors

I would be glad to describe the characteristics of the people who participated in the filling of the questionnaire. Please fill out the information below.

- A1) Age [years]:
A2) Sex: a. Male [] b. Female []
A3) What is your current ward?
.....
A4) How many years have you worked in CCTH?
a. <3 years [] b. >3 years []
A5) Have you ever worked in the dialysis unit and/or medical ward?
a. Yes [] b. No []
A6) If yes, how long did you work there?
a. ≤2 years [] b. 3-5 years [] c. >5 years []

Section B: Knowledge and Practices of Doctors on Conservative Kidney Management

Target Questions

- B1. What is the ideal time to initiate advance care planning conversations for CKD patients?
B2. Is conservative care either chosen or medically advised?
B3. Should comprehensive conservative care be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis?

B4. Please tell us what you know about the treatment of end-stage kidney disease, using the conservative management approach.

B5. What treatments do you recommend for end-stage kidney disease patients who have anaemia and hypertension?

Section C: Identify Barriers to the Practice of Conservative Management in Patients with End-stage kidney disease

Target Questions

C1. In your own opinion what do you think are barriers to the practices of conservative management of end-stage kidney disease?

C2. How many trained nephrology nurses and doctors are available in your unit?

C3. How many nurses and doctors are formally trained on conservative management of end-stage kidney disease?

APPENDIX B
INTERVIEW GUIDE FOR PATIENTS WITH END-STAGE KIDNEY DISEASE

Dear Participant,

The following questions are part of a survey being conducted in partial fulfilment of a thesis of Master of Philosophy in Nursing at the Department of Nursing and Midwifery in the University of Cape Coast on the topic *Conservative Management of End-Stage Kidney Disease at Cape Coast Teaching Hospital*. Findings will inform policy decision concerning conservative kidney management at Cape Coast Teaching Hospital. Your cooperation and support will be appreciated. Information obtained will be treated confidentially and for academic purpose only.

Location:
Date of Interview:
Name of Interviewer:
Starting Time:
Ending Time:

Section A: Demographic Characteristics of Patients

I would be glad to describe the characteristics of the people who participated in the filling of the questionnaire. Please fill out the information below.

- A1) Age [years]:
- A2) Sex: a. Male [] b. Female []
- A3) How many dependents do you have?
.....
- A4) Who provides you with carer support?
a. Spouse [] b. Family (e.g. sibling) [] c. Spouse [] d. Parent []
e. Child [] f. Friend [] g. other
- A5) What is your living situation?
a. Own home [] b. Rented accommodation [] c. With family [] d. With friends []
e. Hostel [] f. Nursing home []
- A6) What is your current employment status?
a. Full-time [] b. Part-time/Casual [] c. Student [] d. Retired/Pension []
e. Not employed []
- A7) What is your highest educational qualification achieved?
a. No education [] b. Basic [] c. Secondary/Vocational [] d. Tertiary
- A8) What is your current treatment?
a. Transplantation [] b. Incenter hemodialysis [] c. Satellite hemodialysis []
d. Continuous ambulatory peritoneal dialysis [] e. Automated peritoneal dialysis []
f. Home dialysis []

A9) How long have you been on dialysis therapy?

- a. 0-6 months [] b. 7 -12 months [] c. 1-2 years [] d. 3-5 years []
e. 6-10 years [] f. \geq 11 years []

Section B: Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis.

Target Questions

B1. Tell us about your psychological, social, physical, financial and emotional experiences with this condition.

B2. Tell me the kind of information do you get from doctors and nurses about your condition.

B3. What option do you get when it comes to treatment of your condition?

B4. How do you cope with your health condition?

B5. Tell us about your experience with dialysis procedure.

B6. Are you able to come for all the sessions of dialysis within the week?

B7. In what ways has the disease affected you?

B8. How do you pay for your hospital expenses?

APPENDIX C
QUESTIONNAIRE FOR NURSES

Dear Participant,

My name is Leticia Serwaa Bonsu, a final year postgraduate student at the University of Cape Coast offering Master of Philosophy in Nursing at Department of Nursing and Midwifery. I am writing to ask for your help with my research on *Conservative Management of End-Stage Kidney Disease at Cape Coast Teaching Hospital*. I would be grateful if you could spare about 30 minutes to answer a few questions on this research. Participation is voluntary. In the event that anything is published from this research no information supplied will be identifiable to you since only aggregated data will be reported in this study. It is expected that the findings of this research will have implications for policy at Cape Coast Teaching Hospital in particular. Thank you for your valuable time and input.

Please tick [] the appropriate response where options are provided and write your response where spaces are provided.

Section A: Demographic Characteristics

A1) Age [years]: a) 20-25 years [] b) 26-30 years [] c) 31-35 years []
d) 36-40 years [] e) 41-45 years [] f) 46 years and above []

A2) Gender/Sex: Male [] Female []

A3) What is your current ward?

.....

A4) How many years have you worked in CCTH?

a. Less than one year [] b. 1 to 3 years [] c. >3 years []

A5) Have you ever worked in the dialysis unit?

a. Yes [] b. No []

A6) If yes, how long did you work there?

a. Less than on year [] b. ≤ 2 years [] c. 3-5 years [] d. >5 years [] e. No Applicable []

Section B: Knowledge on Conservative Kidney Management

Please indicate your level of agreement to each of the following statements below, on the scale:

1=Strongly Disagree, 2= Disagree, 3=Moderately Agree, 4=Agree, 5=Strongly Agree

B1) The ideal time to initiate advance care planning conversations for CKD patients is before starting dialysis.	1	2	3	4	5
B2) Conservative care is either chosen or medically advised.	1	2	3	4	5
B3) Comprehensive conservative care should be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis.	1	2	3	4	5
B4) Anti-hypertensive therapy for patients with end-stage kidney disease should include an angiotensin-converting enzyme inhibitor (grade A) or an angiotensin receptor blocker in case of intolerance to angiotensin converting enzyme inhibitors (grade D).	1	2	3	4	5
B5) Antihypertensive therapy should include either an angiotensin-converting enzyme inhibitor or an angiotensin receptor blocker. Blood pressure should be targeted to < 130 mmHg systolic (grade C) and < 80 mmHg diastolic.	1	2	3	4	5
B6) A protein-controlled diet (0.80–1.0 g/kg/d) is recommended for adults with end-stage kidney disease.	1	2	3	4	5
B7) Higher intensities of exercise are no more effective for patients with end-stage kidney disease.	1	2	3	4	5
B8) For prevention of hypertension, a dietary sodium intake of < 100 mmol/d is recommended, in addition to a well-balanced diet.	1	2	3	4	5
B9) For hypertensive patients, dietary sodium intake should be limited to 65–100 mmol/d.	1	2	3	4	5
B10) For patients with anaemia and adequate iron stores, erythropoiesis-stimulating agents should be initiated when the haemoglobin level falls below 100 g/L.	1	2	3	4	5
B11) For patients with end-stage kidney disease receiving erythropoiesis-stimulating agents, the target haemoglobin level is 110 g/L (grade A). An acceptable haemoglobin range is 100–120 g/L.	1	2	3	4	5
B12) For end-stage kidney disease patients not receiving erythropoiesis-stimulating agents and with a haemoglobin level < 110 g/L, iron should be administered to maintain the following iron indices: ferritin > 100 ng/mL and transferrin saturation > 20%.	1	2	3	4	5
B13) For patients receiving erythropoiesis-stimulating agents, iron should be administered to maintain the following iron indices: ferritin > 100 ng/mL, transferrin saturation > 20%.	1	2	3	4	5
B14) For ESKD patients, oral iron is the preferred first-line therapy.	1	2	3	4	5

B15) Depending on physical activity level, energy requirement should be 35-45 Kcal (150-190KJ)/kg IBW/d for <60 years and 30-35 Kcal (130-150KJ)/kg IBW/d for >60 years' energy from CHO approximately 50-60% energy from Fat approximately 30-35%.	1	2	3	4	5
B16) Encourage Mono and poly-unsaturated fats, Saturated fats <10% of energy and Cholesterol <300mg/d.	1	2	3	4	5
B17) If hypertension or oedema is present, approximately 80mmol/d (no added salt) is recommended for patients. Also, patients may need lower sodium intake, if severe oedema is present (e.g. 50mmol/d) and may need higher sodium intake in patients with salt-losing nephropathy.	1	2	3	4	5
B18) Encourage High fibre diet, i.e. 30-40g fibre/d.	1	2	3	4	5
B19) Short-acting sulfonylureas (e.g., gliclazide) are preferred over long-acting agents in patients with diabetes.	1	2	3	4	5

Section C: Existing Practices on Conservative Management for Patient with End-Stage Kidney Disease

Each of the following statements below relates to the existing practices of nurses on conservative kidney management for patients with end-stage kidney disease. Please indicate your level of agreement to each of the statements below, on the scale:

1=Strongly Disagree, 2= Disagree, 3=Moderately Agree, 4=Agree, 5=Strongly Agree

C1) Nurses administer erythropoietin (EPO) and iron therapy for patients with end-stage kidney disease, as prescribed.	1	2	3	4	5
C2) Nurses undertake symptoms assessment and management for patients with end-stage kidney disease.	1	2	3	4	5
C3) Nurses provide dietary advice for patients with end-stage kidney disease.	1	2	3	4	5
C4) Nurses administer prescribed medication for renal symptoms (fluid retention, itching etc.) to patients with end-stage kidney disease.	1	2	3	4	5
C5) Nurses provide clinic consultations for patients with end-stage kidney disease.	1	2	3	4	5
C6) Nurses provide telephone support for patients with end-stage kidney disease.	1	2	3	4	5
C7) Nurses provide communication with primary care team for patients with end-stage kidney disease.	1	2	3	4	5
C8) Nurses provide telephone support for carers of patients with end-stage kidney disease.	1	2	3	4	5
C9) Nurses provide advanced care planning for					

patients with end-stage kidney disease.	1	2	3	4	5
C10) Nurses conduct social circumstances review for patients with end-stage kidney disease with the help of social workers attached to the renal centre or hospital.	1	2	3	4	5
C11) Nurses provide psychological support for patients with end-stage kidney disease.	1	2	3	4	5
C12) Nursing staff in CCTH conduct home visits to patients with end-stage kidney disease.	1	2	3	4	5
C13) Nurses provide advice on home environment to patients with end-stage kidney disease.	1	2	3	4	5

**APPENDIX D
DATA ON DOCTORS**

Demographic Characteristics of Doctors

Doctor ID	Age	Sex	What is your current ward?	Years worked in CCTH?	Worked in Dialysis unit?	How long have you worked there?
Doctor 1	28	Female	Male and Female Medical Ward	1 year	Yes	Two months
Doctor 2	27	Female	Female Ward	6 month	Yes	One month
Doctor 3	28	Male	Internal Medicine	6 weeks	No yet, but I have been working with staffs who have knowledge in the management of patients with kidney disease.	-
Doctor 4	30	Male	Male Ward	6 months	No, but I have worked in the medical ward.	-
Doctor 5	26	Female	Female medical ward	8 months	Not yet.	-

Knowledge of Doctors on Conservative Kidney Management	
Target Question B1: What is the ideal time to initiate advance care planning conversations for CKD patients?	
Doctor ID	Responses
Doctor 1	Immediately, depending on the stage of the patient after calculating their eGFR: Stage 1 to 4 is ideal.
Doctor 2	Before they get into the end-stage of their kidney disease: Before they get to stage 3 or 4 there about.
Doctor 3	At stage 3b and stage 4, conservative care could be recommended for patients with CKD.
Doctor 4	Immediately we sense that a patient has a kidney disease, we do well to manage it conservatively so that the patient does not get to the end-stage, by considering the patients' presentations. For instance, if he/she has hypertension; we have to manage the hypertension. Also, all the complications that we expect the kidney disease to produce are also managed, for instance, anaemia, acidosis etc. So, we give the patient the necessary minerals (vitamins, calcium) that he/she is losing due to the kidney malfunction. If we evaluate a patient with kidney disease and it is severe or at end-stage, we recommend dialysis. However, some patients at the end-stage still choose CM because they cannot afford the dialysis.
Doctor 5	Right after they are diagnosed with kidney disease, somewhere around stage 2 or 3.

Knowledge of Doctors on Conservative Kidney Management	
Target Question B2: Is conservative care either chosen or medically advised?	
Doctor ID	Responses
Doctor 1	In our facility, we hardly recommend conservative care for patients with ESKD. Usually, they go through dialysis and they get well. The dialysis machine has been designed to function as a kidney. The only problem is that some patients are unable to finance their bills associated with the dialysis. However, if the patient insists on conservative care or go home, we allow him/her. We advise but the patient makes the choice.
Doctor 2	We don't usually discuss CM with the patients, because, by the time the patients visit the hospital for treatment, they are already in the end-stage of their kidney diseases. However, the few that come earlier are given conservative care, especially when they don't have the financial muscles to afford the dialysis treatment. Other factors are also considered before the decision is made, for instance, related sicknesses.
Doctor 3	It depends on a number of factors. Finance is one factor, because, ones the patients starts the treatment, he/she has to follow-up or become consistent with it. So, we usually give the patients the two options to choose from, as the dialysis procedure is cost intensive compared to the conservative care.
Doctor 4	It will still depend on the laboratory findings. If their renal function test results show that they don't need dialysis, then we shall recommend CM. In that case, we shall give put them on drugs, diet change, and management of other complications. If otherwise, then, we have no choice but to recommend dialysis for the patient.
Doctor 5	I think it depends on the stage. If it is at end-stage, then the patient has no options other than dialysis. But, if the patients is at stage 2 or 3, we could consider CM.

Knowledge of Doctors on Conservative Kidney Management	
Target Question B3: Should comprehensive conservative care be provided as a viable, quality treatment option for patients unlikely to benefit from dialysis?	
Doctor ID	Responses
Doctor 1	Yes, because, evidence suggests that patients benefiting from conservative care stay quite longer before they die, so it is somehow positive. We recommend this option for patients who can afford the dialysis, as health insurance doesn't cover for such diseases.
Doctor 2	Yes, particularly when they can't afford the dialysis treatment.
Doctor 3	Certainly, especially when they do not have the financial muscles to undertake the dialysis treatment.
Doctor 4	Sure, particularly when the patient is not at the end-stage of the kidney disease.
Doctor 5	Yes, essentially when the patient is at stage 2 or 3 of the disease.

Practices of Doctors on Conservative Kidney Management	
Target Question B4: Please tell us what you know about the treatment of end-stage kidney disease, using conservative management approach?	
Doctor ID	Responses
Doctor 1	If we are aware of the cause of the ESKD (for instance, diabetics and hypertension), we will manage those causative factors so that the kidney disease doesn't progress fast and that is what we keep doing for those who are in stage one to stage four. But, when it gets to stage five, then, we recommend dialysis for them. We also recommended diet modification and the need to reduce stress related factors.
Doctor 2	I know about the recommended diet, drugs like anti-directives, and managing the other comorbidities associated with the disease, such as hypertension and diabetes.
Doctor 3	Ones the patient is at the end-stage of the disease, it is appropriate to use the renal replacement therapy. Using only CM approach may not help. Nevertheless, if the patient cannot afford the renal replacement therapy, then, we don't have a choice. Furthermore, one has to control for any modifying risk factor that the patient has. Then, we manage any complications associated with the ESKD, not forgetting the dietary counselling offered to the patient. Constant follow-up by the patient is also recommended.
Doctor 4	The ideal management for patient with end-stage kidney disease is renal replacement therapy or transplant, but, if the patient is financial constrained, then, we have no choice than to choose the CM. In that case, we have to control for the comorbidities, such as hypertension, possible anaemia and acidosis, and also give them calcium supplements, folic acid etc.
Doctor 5	Managing hypertension, acidosis, and anaemia. In other words, controlling the complications associated with the kidney disease.

Section B: Practices of Doctors on Conservative Kidney Management	
Target Question B5: What treatment do you recommend for end-stage kidney disease patients who have anaemia and hypertension?	
Doctor ID	Responses
Doctor 1	We give them antihypertensives or antidiabetics after doing BP profiling, but, some hypertensives are not recommended for patients in stage 5 kidney diseases. We encourage blood transfusion for anaemic patients with ESKD, as they require enough blood due to their infected kidney. We also encourage iron injection for the anaemic patients to keep their HB at normal level. Regarding the diet, we encourage the reduction of potassium containing foods and the nurses handle that.
Doctor 2	We give them erythropoiesis for anaemia and calcium for hypertension.
Doctor 3	It depends on the other risk factors available or the comorbidity conditions. Usually, when patients have hypertension plus anaemia, it is advisable to control for the hypertension first before starting erythropoiesis because it could cause hypertension in itself. You can use the ARBs, the diuretics can also help.
Doctor 4	For anaemia, It will depend on their blood level. If their HB is very low, they might require blood transfusion. If not too low, then we can give them iron supplements. If their BP is okay, we can also give them erythropoiesis. For hypertension, if they are long term hypertensive patients, they are usually already on some drugs. If they are doing well on those drugs, then, we continue. If not, we can use the ARBs or AC impetics.
Doctor 5	For anaemia, we usually give them erythropoiesis and then we add fersolics to it.

Identify Barriers to the Practice of Conservative Management in Patients with End-Stage Kidney Disease.	
Target Question C1: In your opinion, what do you think are barriers to the practices of conservative management of end-stage kidney disease?	
Doctor ID	Responses
Doctor 1	Conservative care does not play the role of a kidney like dialysis does. As such, using it alone will not help. In any case, it should be supported with dialysis. CKM only reduces the rate at which the disease progresses, it does not function as a kidney. Moreover, at stage 5 ESKD, conservative care does not provide any significant benefit to the patient.
Doctor 2	Some of the patients managed conservative do not do proper follow-ups on their treatment, for instance, doing the labs as often as they should do.
Doctor 3	Ones the patient is at the end-stage of the disease, it becomes inappropriate to manage them conservatively, because, their condition is already worsened. As such, renal replacement therapy is recommended.
Doctor 4	Probably the outcome, because, we have realised that patient who are on dialysis do better than those who are cared for conservatively. However, CM is less expensive compared to dialysis or the renal replacement therapy.
Doctor 5	CM does not help when the patient is at end-stage (stage 5), because, at that stage, the kidney is near or almost deteriorated. Dialysis is a better option in such cases, because, it offers support to the affected kidney.

Identify Barriers to the Practice of Conservative Management in Patients with End-Stage Kidney Disease.	
Target Question C2: How many trained nephrology nurses and doctors are available in your unit?	
Doctor ID	Responses
Doctor 1	No formal training has been given to both doctors and nurses on nephrology, but, indirectly both nurses and doctors receive some on-the-job training regarding the use of drugs, transfusion etc. while managing the patients.
Doctor 2	I don't really no. For my team, there is not nephrologist, but I don't know for the other teams.
Doctor 3	None that I am aware of.
Doctor 4	I don't know of any formal nephrologist, but, the head of renal centre is an internal medicine specialist.
Doctor 5	None that I know of.

Identify Barriers to the Practice of Conservative Management in Patients with End-Stage Kidney Disease.	
Target Question C3: How many nurses and doctors are formally trained on conservative management of end-stage kidney disease?	
Doctor ID	Responses
Doctor 1	None, we all get some form of informal training the job while managing the patients.
Doctor 2	I haven't heard of any nurse or doctor that is formally trained as a nephrologist in this hospital.
Doctor 3	None that I am aware of.
Doctor 4	I don't know of any formal nephrologist, but, the head of renal centre is an internal medicine specialist.
Doctor 5	None that I know of.

**APPENDIX E
DATA ON PATIENTS**

Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis				
Target Question B1: Tell us about your psychological, social, physical, financial and emotional experiences with this condition.				
Patient ID	Emotional Experience	Physical Experience	Financial Experiences	Social and Psychological Experiences
Patient 1	I am unhappy.	I experience body pains.	My salary sustains me in my treatment. I get less financial help from others.	I am not able to report to work as expected hence am not able to get in touch with my friends
Patient 2	Not comfortable. I feel sad sometimes	Less body pains. I am able to run errands.	It is manageable	I feel down sometimes
Patient 3	The workers in this hospital are very friendly so everyone feels happy being around.	I have waist problems.	It is okay by me. I use my monthly pension funds to settle my financial needs.	As it stance, I am not able to walk properly, limiting my ability to go to church or other social gatherings. I get tired easily.
Patient 4		I have witnessed remarkable improvements upon starting the dialysis treatment. In fact, I see improvement every single day. When the sickness started, I couldn't walk unless I get assistance. However, after receiving treatment for about 6	The condition is a drain in my finances, as a retiree.	

		weeks, my condition has improved. In spite of the improvements, I am not able to go to church. I am always indoors.		
Patient 5	I cry sometimes due to my condition. I even cried this morning.	I am able to walk without any help from others.	I have been detained here for about three weeks; I haven't been to the house, let alone go to work. It hasn't been easy paying for the bills.	
Patient 6	I encourage myself, because, it has already happened.	Before the illness, I was strong, but now, I feel weak. In spite of that, I am able to walk around freely. I don't need help to walk so I am a bit okay.	I am not able to do my petty trading anymore so my financial situation is not good. It is not easy paying for my bills.	I have come to accept my situation because there is not much I can do for myself anymore.
Patient 7	I am usually filled with sadness.	The sickness has made me incapable of going to work	I have become a financial burden to my mother.	It is not a pleasant experience. At some point, I wished I was dead but I was encouraged to be hopeful and that things will be better. So, psychologically, I am a bit okay now.
Patient 8	I feel sad leaving my children home and finding myself always in the hospital	I feel weak and am not able to walk properly due to the disease.	Fortunately, my employer seems to care about me. They pay my bills as if I were still working.	

Patient 9	I am saddled with sadness due to my young age. More so, I can die because am not able to come for all my sessions.	I am faced with physical stress. I am also not able to breathe properly.	I starve sometimes since I don't get food to eat.	My friends come around, particularly when I am home but not when am in the hospital.
Patient 10	I feel sad for myself.	I am unable to go to work because I feel weak most of the time		
Patient 11		After a week or two, I don't feel fit so I have to visit the machine. I can work but I can't find a job now.	The sickness is a drain on my siblings' finances.	
Patient 12	I do cry, sometimes because I am not able to accomplish my vision due to the sickness	I am not fit as I used to be.	It is God that has helped. I haven't been able to work due to this sickness. My children are now managing my business and they make some profit to pay my bills. They had to quit school to be able to do that. If I were around, the business would have been better. I am unable to perform my family duties due to this sickness.	I am not able to mingle with the community folks because of certain comments that they make.
Patient 13		Physically, I feel weak hence I am not able to visit places.	I am facing severe financial difficulties.	It is a very bad experience.
Patient 14		I am not able to go to work.	For now, there is resource for it, but, maybe as time goes on it may be a problem.	It is okay, as am getting used to the sickness.

Patient 15		I am not fit so I am not able to run my usual errands. I was a Kente weaver, but, upon doctor's advice I have stopped, obviously because of my condition.	I have exhausted all my money. If not for my children, it would have been worse.	
Patient 16	I am unable to make positive impact on my friends and family because of the disease.		The sickness has put a financial burden on me.	The future is uncertain and looks terrible for me, but may be, there is still hope for tomorrow.
Patient 17		The disease has affected my health. It is very stressful. I am not able to go to church.		
Patient 18		I always feel tired and sick. As such, I am not able to go to work and other far places.	The sickness is a drain to my finances.	
Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis				
Target Question B2: Tell me the kind of information you get from doctors and nurses about your condition.				

Patient ID	Frequent Health Walks	Dietary & Water Intake	General Response	Drug Intake
Patient 1	Excising regularly by walking most of the time.	Dietary information	No information on changes in each stage of the disease	
Patient 2		Dietary information and instructions		I am given information on my drug dosage.
Patient 3			When I came here at the beginning, I was tutored on what to and what not to do due to my illness, but sometimes, we patients stubbornly disregard to these instructions.	
Patient 4		I have been told the type of diet i must take and the times to take them.		I have also been given instructions on my medications or drug intake.
Patient 5		I have been advised to take a lot of water.	I have been tutored on the end-stage kidney disease. I am also given information on family planning.	I was also given tuition on my drug intake.

Patient 6			I have been given a lot of tuition on how to manage myself in this condition. I even extend the knowledge to new patients.	
Patient 7	I have informed to walk often times, as it is good for my health.		The doctors and the nurses encourage me that I will get better. I think they are doing a great job. They have given us a lot of information that will keep us going. The information is printed and copies are distributed to those who can read. In addition, discussion sections are held with us to explain for everyone to understand.	
Patient 8		I am given information on feeding, water intake, and intake of enough fruits.	No options are provided except the use of the dialysis machine.	I am also given prescription on my drugs.
Patient 9		I am being taught the kind of foods to eat and the need to take a lot of water		I am also given tuition on my medications.

Patient 10		I am given information on my diet and water intake.		I am also given information on my drug intake.
Patient 11		I get information on my diet and water intake		I am also given information on my medication.
Patient 12		I am being told the kinds food to eat and the amount water to take daily.		I am also given information on my drugs.
Patient 13		I am given information my food and water intake.	I am also given information on my blood level.	I am also given information on my drug intake.
Patient 14		I am given information on my diet and fluid intake.		I am also tutored on my medications.
Patient 15		I have been informed to drink at least four sachets of water daily.		

Patient 16		I have been informed on the appropriate amount of water to take on a daily basis. Also, I have been tutored on the type of food to eat, to ensure my wellness and long life.		
Patient 17		I have been informed on my water intake level and nutritional requirements to inform my diet.		
Patient 18		I am give information on my diet and fluid intake.		I am also informed on my medications.

Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis	
Target Question B3: What options do you get when it comes to the treatment of your condition?	
Patient ID	Options given
Patient 1	No options are given to me by doctors and nurses apart from dialysis.
Patient 2	Kidney transplant is recommended but not available at the moment.
Patient 3	I am told the dialysis machine will help me so I can't avoid it.
Patient 4	I was told dialysis can see me through treatment and that's what I know and comply with.
Patient 5	I haven't been given any information regarding kidney transplant, as an alternative.
Patient 6	All that I know is that the dialysis machine will see me through treatment. I am not aware of any other options.
Patient 7	No options are presented to me. Only dialysis.
Patient 8	No option is given except the use of the dialysis machine.
Patient 9	No option is given apart from dialysis.
Patient 10	I was told kidney transplant can be another option but I have not been given that treatment. I am currently on dialysis.

Patient 11	I only know of dialysis machine.
Patient 12	I have been told that transplant is another option but I can't afford it so I am currently on dialysis.
Patient 13	Another option mentioned is transplant but i haven't been able to access it.
Patient 14	Yes, i have been given transplant as another option but I am told it is very expensive. Also, it may not suit my system or my system may reject it so I want to stick to the dialysis.
Patient 15	No option has been offered to me except dialysis
Patient 16	No option has been proposed to me except dialysis procedure
Patient 17	No options are given apart from dialysis
Patient 18	Transplant has been offered me as another option, but, I can't afford it.

Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis	
Target Question B4: How do you cope with your health condition?	
Patient ID	General Responses
Patient 1	It is not easy. Financial difficulties: Money for weekly dialysis and blood transfusion hence little is left for feeding. Sadness. No help anywhere.
Patient 2	It is normal.
Patient 3	God willing, I am coping well.
Patient 4	The financial burden is horrible, particularly because I am a retiree.
Patient 5	It is a problem but i believe I will be fine.
Patient 6	It is not good at all. I am suffering and I am not growing any younger.
Patient 7	I have come to accept my condition and I am ready for anything. If I die, fine. If I get well, glory be to God.
Patient 8	I have accepted my condition. I am only praying that I get better.
Patient 9	I have not accepted that I am sick. I believe God will save me. By faith, I believe I am strong.

Patient 10	I am managing with the condition
Patient 11	I am managing the condition. It has already happened.
Patient 12	I am managing and I believe God will heal me with time.
Patient 13	I am managing with this condition.
Patient 14	I am hoping for the best and I believe I will get better because a friend of mine with a similar condition has fully recovered.
Patient 15	I don't have much option than to manage the condition.
Patient 16	It is well, but I will be better if I get well and start working.
Patient 17	I am managing till the time God calls me into his bosom.
Patient 18	I am managing, with the hope of recovering soon.

Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis	
Target Question B5: Tell us about your experience with dialysis procedure	
Patient ID	Experience with dialysis procedure
Patient 1	The dialysis procedure is okay. It is user friendly.
Patient 2	It is okay, except for the long hours spent sitting on the machine
Patient 3	I sit for long hours (4 hrs.) on this machine. I also think the machine is getting weaker by the day due to numerous patients' usage.
Patient 4	At the beginning, I felt dizzy after using the dialysis machine but after some time, it became better. Again, I vomited on my first day on the machine after sitting on it for two hrs.
Patient 5	I have back aches due to the long hours on the machine.
Patient 6	It is okay. If not for the machine, my situation would have been worse.
Patient 7	It is okay. The injection is painless. The machine is manageable.
Patient 8	The dialysis machine is uncomfortable and painful. It was very painful at the beginning.
Patient 9	It is painful and I get hungry by sitting for long hours on the machine.

Patient 10	The procedure is very painful and tiresome
Patient 11	I felt dizzy initially but now am okay.
Patient 12	I usually have backaches, after long hour on the machine.
Patient 13	It is very expensive and tiresome, sitting on the machine for about 4 hrs.
Patient 14	It is tiresome and time consuming. However, the pain is less.
Patient 15	Initially, it was a bit painful. Also, it is time consuming. I have to sit on the machine for several hours.
Patient 16	Initially, the injection needle was painful, but now, it is painless.
Patient 17	It is time consuming.
Patient 18	Very painful, stressful, and tiresome

Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis	
Target Question B6: Are you able to come for all the sections of dialysis within the week.	
Patient ID	Dialysis sections
Patient 1	I am supposed to come for sections three times in a week, but due to marital issues, I usually come twice a week.
Patient 2	Yes, I do that twice in a week.
Patient 3	Yes, I come as authorised by my doctor: twice a week. I usually default during holidays. I rest on such days.
Patient 4	I have been asked come for dialysis treatment twice a week and I comply. I visit Tuesdays and Fridays.
Patient 5	I visit the number times I am asked to. Sometimes twice a week. Other times, once a week.
Patient 6	I am supposed to visit twice in a week but due to financial difficulties, I come once in a week.
Patient 7	I am told to visit the machine twice a week and I try to meet this requirement.
Patient 8	As my employer foots my bills, I am able to come for all my sections, as recommended by my doctor.
Patient 9	I am not able to come for all my sessions within the week due to financial constraints and distance.
Patient 10	I come once a week due to financial constraints

Patient 11	Due to financial difficulties, I come once a week.
Patient 12	Yes. I am supposed to come twice a week and I do well to comply.
Patient 13	Yes, I come as recommended by the doctor. I come twice a week.
Patient 14	Yes I do, twice a week.
Patient 15	For now, yes but i don't know what could happen in the near future, particularly if am not able to raise the needed funds
Patient 16	Yes, twice a week.
Patient 17	Yes I do, I patronise the machine twice a week.
Patient 18	Yes, twice a week.

Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis				
Target Question B7: In what ways has the disease affected you?				
Patient ID	Work/School	Marriage/Relationship	Personal	Dependants
Patient 1	The disease has negatively affected my attendance towards work.	The disease has affected my marriage; I am not able to take care of my husband as I wished. But, he we are still together.	I cry a lot due to my current condition. I have grown lean.	I am not able to take proper care of my children.
Patient 2	I am able to get to work anytime I wish	Less effect on my marriage	I am okay.	I am able to take care of them.
Patient 3	I am a pensioner so I don't have problems with work.	My wife is still supportive.	It is well.	My children al grown and responsible so I am not worried.
Patient 4	I am a retiree so work is not a problem.	My wife is around and she takes care of me.	I feel happy and I trust in God.	My children are old enough to take care of themselves.
Patient 5	I am not able to go to work.	My husband is supportive in spite of my condition.		My husband takes care of the children.

Patient 6	I am not able to do my petty trading.	My husband is jobless. If I was fit I could have supported him.	I am able to cook for myself, anyway.	My children have become a burden to me, because, they are very young.
Patient 7	I am not able to work anymore. I used to work in a hotel. I have not been paid for about 4 months now due to my inability to go to work.	It has affected my relationship with my partner.	I walk little by little. When I get tired, I take a rest.	
Patient 8	I am unable to go to work and unable to move from one place to another, as I used to do.	My wife is still supportive.	I can barely walk	I am still able to cater for my children due to the financial support I get from my employer.
Patient 9	I am not able to go to school		I easily get tired.	
Patient 10	The disease has affected my work.		The sickness is a drain to my finances. I am not as strong as I used to be.	
Patient 11	I am not able to continue my education.		Moving from one place to another is also somehow tiring.	


Patient 12	The disease has affected my work and my vision in life.		I am not strong as I used to be.	
Patient 13	The disease has affected my work.		I am not as fit as I used to be.	
Patient 14	I am not able to neither drive nor go to work.	My wife is still committed.	I sleep a lot.	
Patient 15	I am unable to go to church, work nor run errands			
Patient 16	The disease has affected my ability to go to work	It has also affected my relationship		
Patient 17	I am unable to walk nor got to church.			
Patient 18	I am not able to go to work or visit places.		The sickness is a drain to my finances.	


Experiences of Patients with End-Stage Kidney Disease Who are on Dialysis				
Target Question B8: How do you pay for your hospital expenses?				
Patient ID	Salary	Church	Relatives	Business
Patient 1	I pay my hospital expenses with my monthly salary.	Once in a while, my church supports me financially.	No financial support from relatives	
Patient 2				From my own business (a gas filling station).
Patient 3			My children give me money to pay for my hospital bills.	
Patient 4			I get support from my wife and children.	
Patient 5			My husband is the only one that supports me financially.	
Patient 6			My husband use to help but currently, he is jobless so times are	I am not able to do my petty trading anymore.

			hard. I live on the donations that I get from friends and siblings.	
Patient 7			My mother is the takes care of me. Apart from my mother, I get little support from my workplace.	
Patient 8			My company takes care of the bills.	
Patient 9			My father takes care of the hospital bills.	
Patient 10	My salary keeps me going.			
Patient 11			My mother pays.	
Patient 12				I used to run a business which is now being managed by my children and the returns from the business pay my bills.
Patient 13			My husband pays the bills.	

Patient 14				I have my own company so the profits from the company pay my bills.
Patient 15				From my personal savings but it is almost finished
Patient 16	I pay the bills with my monthly salary, as I happen to be a manager at my workplace.			
Patient 17	My employer pays for my bills, although I am retired.		My children also support me in the payment of my bills.	
Patient 18	My monthly salary enables me to pay my bills.		My husband also supports me in paying my hospital bills.	

APPENDIX F
INTRODUCTORY LETTER

 **UNIVERSITY OF CAPE COAST**
COLLEGE OF HEALTH AND ALLIED SCIENCES
SCHOOL OF NURSING AND MIDWIFERY
DEAN'S OFFICE



Telephone: 233-421 829231/2
Telegrams & Cables: University, Cape Coast
Email: snm@ucc.edu.gh

UNIVERSITY POST OFFICE
CAPE COAST, GHANA.

Our Ref: SNM/R/2/Vol.2/93
Your Ref: 11th July, 2018

The Director
Cape Coast Teaching Hospital
P. O. Box CT 1363
Cape Coast

Dear Sir,

LETTER OF INTRODUCTION: MS LETICIA SERWAA BONSU: SN/MNS/16/0012

The above named student of the School of Nursing and Midwifery, University of Cape Coast is undertaking a research as part of the requirements for her Master of Nursing program.

She would like to collect data in your institution, Cape Coast Teaching Hospital.


Her topic is: **Conservative management of end-stage kidney disease at Cape Coast Teaching Hospital.**

We would be grateful, if you could offer her the necessary assistance and support she may need to enable her collect the data for the research.

Counting on your cooperation.

Thank you.

Yours faithfully,



Dr. Samuel Victor Navor
VICE-DEAN

**SCHOOL OF NURSING
UNIVERSITY OF CAPE COAST
CAPE COAST**



UNIVERSITY OF CAPE COAST
COLLEGE OF HEALTH AND ALLIED SCIENCES
SCHOOL OF NURSING AND MIDWIFERY
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UNIVERSITY POST OFFICE
CAPE COAST, GHANA.

Our Ref: DMH/VOI.1/I/21

Your Ref:

14th March, 2018

The Chairman
Institutional Review Board
UCC

Dear Sir,

**LETICIA SEWWAA BONSU: CONSERVATIVE MANAGEMENT OF END-STAGE KIDNEY
DISEASE AT COAST TEACHING HOSPITAL**

I write in my capacity as the principal supervisor of the above student (Leticia Serwaa Bonsu) Leticia is a fulltime Master of Nursing Student with the School of Nursing and Midwifery. She has made significant progress and demonstrated competencies in her chosen topic. She need to progress to the next stage with her project which will require ethical clearance from your outfit.

I would be grateful if you could support her in this regard.

Thanks

Yours faithfully

Dr. Jerry Paul Ninnoni (PhD)
Coordinator

APPENDIX G
APPROVAL LETTER FROM CCTH

In case of reply the reference number
and the date of this
Letter should be quoted

Our Ref.: CCTH/RDS/2018/29

Your Ref. SNMR/2/Vol.2/93



P. O. Box CT.1363
Cape Coast
Tel: 03321-34010-14
Fax: 03321-34016
Website: www.cctghana.org
email: info@cctghana.com

17th July 2018

Ms. Leticia Serwaa
Masters Student
University of Cape Coast
College of Health and Allied Sciences
School of Nursing and Midwifery
Cape Coast

Dear Ms Bonsu,

R&D SECRETARIAT'S INSTITUTIONAL APPROVAL

The Cape Coast Teaching Hospital Research and Development Secretariat (CCTHRDS) have assessed your research topic, "Conservative management of end stage kidney disease at Cape Coast Teaching Hospital" which was submitted for institutional approval. The secretariat writes to inform you of the decision to grant you CCTH institutional approval to undertake the study at CCTH.

You are however required to submit an electronic copy of your findings from the research in the form of an abstract to the CCTHR&D Secretariat email address: ccthresearch@gmail.com

Always quote our ref. identification number above in all future correspondence with us in relation to this research study.

Yours sincerely,

Ms. Princess G. Ofori
Head, Research, Monitoring & Evaluation

CC. Head, Internal Medicine Sub-BMC
Head, OPD sub-BMC

APPENDIX H
ETHICAL CLEARANCE

UNIVERSITY OF CAPE COAST

INSTITUTIONAL REVIEW BOARD SECRETARIAT

TEL: 0558093143 / 0508878369/0244207814

CEO Directorate of Research, Innovation and Consultancy

E-MAIL: irb@ucc.edu.gh

OUR REF: UCCIRB/A/2016/266

YOUR REF:

OMB NO: 0990-0279

IORG #: IORG0000096



6TH JULY, 2018

Ms. Leticia Serwaa Bonsu
Department of Mental Health
University of Cape Coast

Dear Ms. Bonsu,

ETHICAL CLEARANCE -ID: (UCCIRB/CHAS/2018/12)

The University of Cape Coast Institutional Review Board (UCCIRB) has granted **Provisional Approval** for the implementation of your research protocol titled *Conservative management of end-stage kidney disease at Cape Coast Teaching Hospital*. This approval requires that you submit periodic review of the protocol to the Board and a final full review to the UCCIRB on completion of the research.

The UCCIRB may observe or cause to be observed procedures and records of the research during and after implementation.

Please note that any modification of the project must be submitted to the UCCIRB for review and approval before its implementation.

You are also required to report all serious adverse events related to this study to the UCCIRB within seven days verbally and fourteen days in writing.

Always quote the protocol identification number in all future correspondence with us in relation to this protocol.

Yours faithfully,

Samuel Asiedu Owusu, PhD
UCCIRB Administrator

ADMINISTRATOR
INSTITUTIONAL REVIEW BOARD
UNIVERSITY OF CAPE COAST
Date: 6/07/2018