Cypriot nurses' perceptions on their role in the care of patients with CKD including the education of these patients to self-manage their condition: An Interpretive Phenomenological Study

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Abstract

Background: Chronic kidney disease (CKD) is a recognized as a leading public health problem worldwide that impacts more than 10% of the global population. Healthcare systems are facing a considerable growth in the number of people with CKD and its substantial financial burden.

Aim: The aim of the study was to understand how nurses who provide care to people with CKD perceive and experience their roles and to identify different factors that positively or negatively affect the implementation of nurses' roles.

Methods: An Interpretative Phenomenology Approach (IPA) was conducted that involved in depth individual semi-structured interviews with sixteen nurses working in CKD care. The sample was purposive and homogeneous, and the participants came from all the district hospitals of the Republic of Cyprus. The transcribed data was analysed, and key themes were identified.

Findings: The study revealed that nurses have multiple roles in CKD care including machine operators, providers of holistic care, unit bureaucrats, patient educators, and emotional supporters. However, it was clear that these roles differed amongst various work settings. Various factors affecting nurses' roles were identified and classified into major themes: Nurse preparation, Organisational issues, Barriers to patient education, Difficult patients, and Nurses' defensive behaviour.

Conclusion: Nurses play a key role in the provision of quality care to patients with CKD including the appropriate education. There are numerous factors that may facilitate or inhibit nurses' professional roles performance, and a proposed framework has been developed to enhance CKD care which describes how healthcare organisations, nurses, and patients could contribute and support the delivery of high-standard nursing care.

Keywords: Chronic kidney disease, nursing roles, patient education, facilitators, barriers.

Dedication

This study is dedicated to the loving memory of my mother

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Lastly, I would like to express my gratitude to my family for their patience and understanding during this long journey.

Declaration

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Nicosia. This thesis has been composed solely by myself except where stated otherwise by reference or acknowledgment. It has not been previously submitted, in whole or in part, to this or any other institution for a degree, diploma or other qualifications.

Signed … ..... Date …22/11/2022…....

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Abbreviation Index

ACR	Albumin: Creatinine Ratio
CKD	Chronic kidney disease
CV	Cardiovascular
eGFR	Estimated Glomerular Filtration Rate
ERA -EDTA	European Renal Association
ESKD	End Stage Kidney Disease
GBD	Global Burden of Disease
GESY or GHS	General Health System
GP	General Practitioner
HF	Heart Failure
KDIGO	Kidney Disease: Improving Global Outcomes
LMICs	Low- and Middle-Income Countries
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analyses
RN	Registered Nurse
RRT	Renal Replacement Therapy
SHSO	State Health Services Organisation

CHAPTER 1: INTRODUCTION

1.0 Introduction

Chronic kidney disease (CKD) is a progressive disorder that affects more than 10% of the global population, or more than 840 million people (Jager et al., 2019). CKD is more common in elderly adults, women, individuals with diabetes and hypertension, and ethnic minorities. Chronic kidney disease is a particularly large burden in low- and middle-income countries (LMICs), which are the least prepared to confront its impacts. CKD has appeared as one of the main causes of mortality globally, and it is one of the few non-communicable diseases with an increase in related mortality during the last two decades. The worldwide mortality rate from CKD increased by 41.5% from 1990 to 2017 (Bikbov et al., 2020). The large number of people afflicted, and the severe negative effect of CKD should inspire further efforts for better prevention, treatment, and care.

CKD is defined by impaired kidney function, which is evidenced by a decline in estimated glomerular filtration rate (eGFR) or signs of kidney damage, or both, for at least three months (Bikbov et al., 2020). It is a long-term damage to the renal parenchyma that results in chronic deterioration of renal function and may develop into end-stage renal disease (Akchurin, 2019) The definition of CKD subsumes all people with certain markers of kidney disease or those with an eGFR of less than 60 ml/min/1.73m^2 on at least two times 90 days apart, with or without markers of kidney damage. Markers of kidney disease might comprise proteinuria (Albumin: creatinine ratio (ACR) > 3 mg/mmol), haematuria, renal histological abnormalities, structural deformities identified by imaging investigation. Based on their eGFR, patients are classified between G1 and G5. Based on ACR, patients are classified between A1 and A3 (Figure 1).

KDIGO Classification and Prognosis of Chronic Kidney Disease 2012

Prognosis of CKD by GFR and albuminuria category

Prognosis of CKD by GFR and albuminuria categories: KDIGO 2012				Persistent albuminuria categories description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–300 mg/g 3–30 mg/mmol	>300 mg/g >30 mg/mmol
GFR categories (ml/min/1.73 m^2) description and range	G1	Normal or high	≥90			
	G2	Mildly decreased	60–89			
	G3a	Mildly to moderately decreased	45–59			
	G3b	Moderately to severely decreased	30–44			
	G4	Severely decreased	15–29			
	G5	Kidney failure	<15			

Green: low risk (if no other markers of kidney disease, no CKD); yellow: moderately increased risk; orange: high risk; red: very high risk.

Figure 1: Classification and prognosis of chronic kidney disease from 2012 KDIGO guidelines.

Diabetes mellitus, blood hypertension, and glomerulonephritis are the most prevalent causes of this progressive condition. Additionally, other health disorders that could affect the kidneys are inherited diseases such as polycystic kidney disease, and autoimmune diseases such as Lupus nephritis (National Kidney Foundation (NKF), 2015). CKD is linked to high morbidity, poor quality of life, as well as an elevated risk of cardiovascular (CV) incidents, such as heart failure (HF) and premature mortality (Centers for Disease

Control and Prevention (CDC), 2019). In its most advanced and serious form, known as End Stage Kidney Disease (ESKD), kidney damage and degradation of kidney function have proceeded to the stage where dialysis or kidney transplantation are required (CDC, 2021). Most CKD patients will die due to cardiovascular conditions before they reach ESKD (Briasoulis & Bakris, 2013). Despite that the prevalence of CKD during the last decade of the twentieth century, from 2000 it has remained fairly steady thereafter (Murphy et al., 2016). Also, a similarly constant frequency of CKD prevalence rate was recorded between 1995 and 2008 in Norway (Hallan et al., 2016). It is important to note that, as the population increases, a steady trend in CKD prevalence still reflects a rise in the absolute number of individuals with CKD. It is challenging to determine the observed changes in CKD prevalence and the disparities observed between diverse populations and periods.

Disease prevalence may vary as a result of variations in disease occurrence and the significant impact of variables, such as age, gender, or race, on incidence values. The higher prevalence for CKD is associated with advanced age. Mills et al. (2015) confirmed that the prevalence of CKD stages 1-5 increased linearly with age, rising from 13.7% in the 30–40-year-old cohort to 27.9% in patients between 70 and 80 years. Similar tendency was stated in the USA where people aged 20 to 39 years had a 5.6% prevalence of CKD stages 1-4, while those older than 70 years had a 44% prevalence. Females have a higher prevalence of CKD than males, according to studies. In adults aged 20 years and older, women have a higher prevalence rate (11.8%) than men (10.4%). Also, the CKD prevalence rate was found 9.1% in high-income countries which was significantly lower than the prevalence rate in low and middle-income countries (Mills et al., 2015).

Changes in survival or longer life expectancy of those diagnosed with CKD can also affect prevalence.

People with CKD are more likely than those without it to be hospitalized (Go et al., 2004), to develop complications while in the hospital (Bohlouli et al., 2016), and to be readmitted to the hospital (Daratha, 2012). They have frequent interactions with healthcare providers, for routine checkups, lab tests, treatments, and, in the case of advanced CKD, the necessity for dialysis and/or kidney transplantation. Unexpected hospitalizations are additional, unwelcome events that induce stress, especially when admissions are made through emergency services.

The simultaneous occurrence of two or more long-term conditions are commonly associated with CKD, as they may have caused CKD, such as diabetes mellitus, they may have developed complications of CKD, such as cardiovascular conditions, or they are unconnected (Fraser et al., 2015). Healthcare professionals have acknowledged multimorbidity as a serious concern that should be prioritized in research (Whitty, 2020). These individuals usually encounter polypharmacy and a high-level treatment burden, which negatively affects their quality of life (Mair & May, 2014). Hospitalizations may be directly related to CKD for reasons such as fluid overloading, surgery, or other illnesses that occur with CKD in excess, for example infections or cardiovascular events (Go et al., 2004). Furthermore, CKD individuals are subjected to the danger of the healthcare environment, e.g., nosocomial infection and isolation, along with therapeutic action.

CKD has become commonly acknowledged as one of the most prevalent causes of death globally. According to the Global Burden of Disease (GBD) (2013) report, while relative mortality rates among most communicable and noncommunicable diseases dropped,

CKD (defined as all stages, including dialysis patients) was one of just a few ailments to show a rise since 1990. (Abubakar et al., 2015). CKD is not only one of the major causes of mortality, but, as of 2013, it was also the 19th greatest cause of years of life lost. It is measured by the number of people who died from CKD and the lower life expectancy of individuals in various age groups at the time of their death. In 1990, ranked 36th in causes of death. Recent GBD reports show that CKD has continued to increase in the list of causes of mortality, with expectations it will become the fifth leading cause of years of life lost globally by 2040 (Foreman et al., 2018).

Treating persons with renal illnesses and kidney failure places a significant expensive load on healthcare budgets, with yearly costs for haemodialysis ranging from US$ 88,195 in the United States to US$ 58,812 in Germany, US$ 83,616 in Belgium, and US$ 70,928 in France (Jager et al., 2019). According to studies in the United States, Sweden, and the United Kingdom, individuals with advanced CKD but who are not on dialysis spend two to four times more on their healthcare costs than do individuals of the same gender and age but without CKD (Eriksson et al., 2016). Furthermore, a study carried out by Manns et al. (2019) found that the expense of care for persons with non-dialysis CKD is considerably high, especially those who have proteinuria and lower eGFR, where there is a linear association between expenses and severity. Also, it has been demonstrated that patients with diabetes who have more severe CKD and those who proceed from less advanced to more advanced stages of diabetic nephropathy incur higher healthcare expenses (Vupputuri et al., 2014). In 2017, healthcare payments for CKD therapy in the USA alone totaled $84 billion.

Around 12% of those with CKD develop ESKD (National Institute of Diabetes and Diestive and Kidney Diseases, 2021), which has substantially higher expenses per person. ESKD patients, who account for around one in every 10 kidney disease sufferers, spend nearly half as much as those with early-stage kidney illnesses. In 2017, ESKD spending was $36 billion. While ESKD is less frequent than CKD, it is nonetheless extremely common in American hospitals. In the USA, 340 new people undergo dialysis for renal failure every 24 hours (CDC, 2021). Approximately 3% of healthcare spending is attributable to failing kidneys for those who know they have and receive direct treatment for CKD or ESKD, whereas the healthcare expenditures directly related to CKD risk factors (high blood pressure, obesity, and cardiovascular disease) are calculated to be nearly 30% of the healthcare budget (Ethos Biosciences, 2022).

Several studies have shown that decreased kidney function is related with increased hospitalization, with CKD being a major predictor of hospitalizations even after comorbidities are taken into consideration (System USRD, 2017; Baumeister, 2010). The incidence of hospitalization for those with CKD has been reported to be more than twice as high as for people without CKD (Alexander et al., 2009). When compared to individuals without CKD, people who have kidney disease and are hospitalized are more likely to have additional complications, including higher rates of re-hospitalization, prolonged duration of hospitalization, deterioration of kidney function, and higher mortality rate (Bohlouli, 2016; Daratha, 2012). A study carried out by Schrauben et al. (2020) in the USA found that the hospitalization rate among patients with CKD was substantially greater than the rate of hospitalization in the general population who were 65 years of age or older, and the hospitalizations frequently occurred at kidney function levels that

did not necessitate nephrology care. Although cardiovascular disease is the most common reason for hospitalization (31.8%), reasons related to non-cardiovascular disorders, such as genitourinary (8.7%), digestive/gastrointestinal (8.3%), endocrine, nutritional, metabolic and immunological, and respiratory (6.7%), account for the vast majority of hospital admissions. Proteinuria is a significant risk factor for hospitalization. The trends among diabetic individuals reflect the broader tendency previously stated. Participants without diabetes had fewer admissions for endocrine, nutritional, or metabolic, and immunological reasons and higher admissions for musculoskeletal/connective tissue reasons.

All the above underscore the need for the provision of optimum care tailored to each patient's needs and application of appropriate approaches for identifying persons at risk for major CKD complications and developing preventative strategies to enhance CKD outcomes. Additionally, the necessity of advanced knowledge and skills is given for nurses working in CKD care areas. As a consequence, nephrology nursing has been established and recognized as a specialty for almost 50 years. In the US, end-stage kidney disease (ESKD) treatment by haemodialysis, peritoneal dialysis, or transplantation was covered by the federal government through the Social Security program in 1973. As a result, the breadth of the nephrology nurse's function developed, practicing limits expanded, and the number of nephrology nurses continuously increased (American Nephrology Nurses Association (ANNA), 2022). Nephrology nursing entails both preventing illness and assessing patients' and families' healthcare needs. Nephrology nurses must be well-educated, highly trained, and dedicated, since care covers the life span and include individuals who are facing the actual or potential impact of kidney

disease (ANNA, 2022). However, it is evident that the provision of CKD care varies (Crews et al., 2019). Despite the widespread and increasing burden of CKD in many LMICs, they have narrow capacity to deal with it; sources of finance are frequently limited, other public health issues such as vaccinations, maternal and child health, good hygiene, safe drinking water supply, peace, and security may be prioritized over CKD, and health professionals might indeed lack CKD management skills (Jha et al., 2016). Given the well-known variations in healthcare delivery between countries, especially between high-income countries and LMICs, eliminating this knowledge gap is a necessity for establishing successful kidney care programs. Addressing this gap will provide insights into how existing models might be reinforced and perhaps scaled to national levels (Nkunu et al., 2022).

Despite the plethora of data indicating inadequate CKD care, little research has been conducted to investigate the roles of nurses and how they might be improved. As a result, in order to assess the current level of CKD care, examine potential challenges, and improve the standards of CKD care that nurses provide, it is necessary to understand their roles in CKD care along with the barriers and facilitators that nurses face when performing these roles. A systematic review of previous studies' literature will assist in refining the study's research questions.

1.1 Health Care System in Cyprus

Cyprus has been divided into two sides, south and north, since 1974, when Turkey invaded the north. As a result, there is no data about the health status of the residents of the Turkish-occupied area, despite the fact that they have their own healthcare system (Theodorou et al., 2012; Andoniadou, 2005). Therefore, all statistics and discussions in

this chapter refer to the area under control of the recognized Republic of Cyprus government. On 1 May 2004, Cyprus became a full EU Member State.

Cyprus is split into six districts, which are subdivided into municipalities and communities. (Theodorou et al., 2012). The districts or the parts of them that are occupied are mentioned but their populations are not included in this study. On 1 October 2021, the population in the Government-controlled areas of Cyprus was 918,100, representing a 9.2% increase in the population of 840,000 in 2011. Males made up 48.6% of the population, while females made up 51.4%. Children under the age of 15 were 15.9% of the total population. People aged 15 to 64 years were 67.4%, while the proportion of people aged 65 and above was 16.7%. People aged 65 and over were higher than the proportion of children under the age of 15, indicating that the population is aging. This trend is also visible in most European countries, which are also experiencing an aging population. (Press and Information Office, 2022). The overall number of foreign citizens is 193,300, accounting for 21.1% of the total population.

The average household size is gradually decreasing, reaching 2.6 individuals per household in 2021, down from 4.0 persons in the 1976 Census, 3.2 persons in the 1992 Census, and 2.8 persons in the most recent Population Census in the 2011 (Press and Information Office, 2022). According to the most recent WHO data published in 2020, life expectancy in Cyprus is 83.1, the life expectancy for males is 81.1, whereas for females it is 85.1. The total life expectancy gives Cyprus a World Life Expectancy ranking of 6 (World Health Rankings, 2020). The most prevalent long-term health issues in Cyprus are coronary heart disease, stroke, Alzheimer's & dementia, lung disease, diabetes

mellitus, lung cancers, kidney disease, colon-rectum cancers, and breast cancer (World Health Rankings, 2020).

On 1 June 2019, Cyprus implemented the national General Health System (GESY or GHS), which was the largest reform and social project in the field of health services in Cyprus. Before the implementation of the GESY, Cyprus had a dual-payer healthcare system comprised of the public and private sectors. The Ministry of Health had absolute control over the centralized public system, which provided financial support with the state budget. The services were provided through a network of hospitals and primary care clinics. Several sectors within the Ministry of Health collaborate, including the government laboratory and pharmaceutical sectors that offer medical, public health, mental health, and dentistry care, as well as nursing services (Theodorou et al., 2012). The public sector was funded by employees' compensation, income taxes, and employers' contributions (Boslaugh, 2013).

The new healthcare system mission is to provide affordable and efficient healthcare services to all who live in Cyprus permanently with the option of selecting their health care provider from the private or public sectors. The GESY is a complete and economically sustainable healthcare system that intends to meet Cypriot citizens' and residents' expectations for equal access to treatment and high-quality healthcare by utilizing all available resources to the greatest extent possible. Healthcare services are provided by personal and specialist doctors. Through the GESY, people can access pharmaceutical products, laboratory tests, inpatient care services, accidents and emergencies, as well ambulance services. Also available are healthcare services from nurses, midwives, clinical psychologists, clinical dieticians, physiotherapists, occupational therapists and

speech pathologists, preventive dental healthcare services, palliative healthcare, and medical rehabilitation (European Commission, ND). These services are independent of one's financial contribution to the GESY, and therefore, everyone has equal access to them.

Beneficiaries enroll in the GESY and choose their personal doctor. The personal doctor is responsible for promoting health, preventing, and treating illness, and referring the patients to suitable health professional with the GESY. Beneficiaries have the freedom to select any specialist doctor, pharmacy, laboratory, hospital, or other private or public healthcare provider they desire (European Commission, ND). The contributors' categories are employees, employers, state-employed, self-employed, income-earners (i.e., income from rent, interest, dividends), pensioners, government officials, and persons responsible for the payment of remuneration to government officials.

During the first stage of implementing the GESY (01/06/2019 – 29/02/2020), the contribution rate for employees (public and private sectors), employers, and the state was 1.70%, 1.85%, and 1.65% retrospectively. Since 1 March 2020, when the second implementation stage of the GESY commenced, the contribution rate has risen to 2.65% for employees, to 2.90 % for employers, and to 4.70% for the state (Lexology, 2019). As of June 2022, 917,000 Cypriots had registered with a general practitioner (GP) through the GHS, roughly equal to the Republic of Cyprus's current population, and 777,000 visited their GPs since its inception. Furthermore, 756,000 patients have seen specialists, and 769,000 have obtained medications. In addition, 159,000 people received inpatient care. GHS has 711 GPs, 1969 specialists, 159 laboratories, and 1076 other health professionals (Christou, 2022).

In 2017 the State Health Services Organisation (SHSO) was legally established to operate all public hospitals and centers of primary healthcare in the areas controlled by the Republic. It is also responsible for overseeing the administrative and financial autonomy of public hospitals (Establishment of State Health Services Organization Law, 2017). SHSO is Cyprus's largest healthcare provider, offering 24-hour comprehensive health services to individuals of all ages, which cover the full range of the public's health needs. SHSO operates nine hospitals and 38 health centers that are spread across all cities and provinces. It also plays a key role in the healthcare sector and is responding to the new competition from the GESY by implementing a new plan for administrative and financial autonomy (State Health Services Organisation, 2022).

1.2 Chronic Kidney Disease Care in Cyprus

As stated above, in Cyprus there are nine public hospitals; five of them are district hospitals, with one in each main town, Nicosia, Limassol, Larnaca, Paphos and Paralimni, that offer high-level secondary healthcare in a wide range of clinical specialties, as well as diagnostic and laboratory examinations. Another two hospitals are located in Nicosia, the Archbishop Makarios III Hospital delivering paediatric and gynaecological care, and the Athalassa Hospital, which is the largest unit for inpatient mental health treatment, offering services to patients all over the country. A rural hospital is located in Kyperounta in the Troodos Mountains, and it provides primary and secondary healthcare to patients from 84 communities, and another one is in Polis Chrysochous, on the west coast, north of Paphos, where general medicine, pediatrics, radiology, dentistry and short

hospitalizations of patients are provided in addition to acute and emergency services (Theodorou et al., 2012).

All district hospitals have a haemodialysis unit providing dialysis services, whereas two of them, in Nicosia and Limassol, have a peritoneal dialysis unit. Nicosia, Limassol and Larnaca have nephrology wards, and there is only one transplantation center for kidney and pancreas transplantation, which is in the Nicosia hospital. Additionally, two private hospitals, one in Nicosia and one in Paphos, provide haemodialysis unit care. Furthermore, in the Archbishop Makarios III Hospital, the paediatric nephrology clinic is the only clinic in Cyprus where children with simple or complex problems from the entire spectrum of paediatric nephrology are monitored. Children with the following conditions are monitored there: acute or chronic renal insufficiency, peritoneal dialysis, kidney transplantation, glomerulonephritis, hereditary kidney diseases, haematuria, congenital urinary abnormalities, daytime or nighttime enuresis, complicated urinary infections, among others. Also, diagnostic percutaneous kidney biopsies are performed at the clinic. The clinic operates a regular paediatric nephrology clinic three times a week, while children with severe nephrology who require hospitalization are accommodated in the Paediatric Clinic.

The incidence of kidney failure in Cyprus is estimated to be 204 newly diagnosed people per million population (pmp). This is regarded as high, and it is certainly higher than in other European countries, such as Austria, where the incidence of kidney failure is 122 pmp; the United Kingdom, with 116 (pmp); and Iceland, with 58 new diagnosed individuals with kidney failure pmp (Biobank.Cy, 2022). The ERA Registry Annual Report 2019 also confirms the higher incidence of renal replacement therapy (RRT) for end-stage renal

disease (ESRD) in Cyprus between 37 European countries. Specifically, in 2019 the population of the Republic of Cyprus was 888,000 and 252 people initiated RRT for ESRD, corresponding to 285 pmp, much greater than 132 pmp of all participating countries (Boenink et al., 2022). This figure was apparently an increase from the incidence of RRT in 2018, which was 256 pmp in Cyprus (Kramer et al., 2020). A very interesting finding of the ERA Registry Annual Report 2019 was that 107 out of 252 people who initiated RRT for ESRD were diabetic, corresponding to 120 pmp, which is much higher than 28 pmp of all countries, underlining diabetes mellitus as the primary cause of renal disease in Cyprus (Boenink et al., 2022). According to the ERA-EDTA Registry Annual Report 2018, there were 86 out of 224 people on RRT with diabetes mellitus, which is equivalent to 98 pmp, highlighting the notable increase of people with CKD who also have diabetes mellitus in Cyprus (Kramer et al., 2020).

Despite the high and dramatically increasing number of people with CKD in Cyprus, there are no specialist nurses working in the CKD care settings.

1.3 Rationale of the study

After a period of 5 years in the UK, where I completed my specialty in nephrology nursing and my MSc in nursing, and also worked in the hospital, I came to Cyprus. When I started working in Larnaca General Hospital, I noticed remarkable differences between the way nurses worked in Cyprus and how they worked in the UK, that consequently brought about much different care outcomes. I wondered if this was due to the nurses' training, their own perceptions and mindset, nursing management, a combination of these, or possibly other factors such as patients or other health professionals. When I started my PhD, I had

already decided to investigate how Cypriot nurses understand and experience their roles in CKD care and what factors affect the implementation of these roles.

1.4 Importance of the study

Chronic kidney disease (CKD), as previously stated, affects more than 10% of the global population and is a particular burden in low- and middle-income countries. CKD has emerged as one of the leading causes of death worldwide, and it is one of the few noncommunicable diseases that has seen an increase in related mortality over the last two decades (Bikbov et al., 2020). According to Briasoulis et al. (2013), the majority of CKD patients will die from cardiovascular disease before they reach ESKD. The large number of people affected, as well as the severe negative effects of CKD, should motivate additional efforts for improved prevention, treatment, and care.

The higher prevalence of CKD is associated with advanced age, but also with other variables such as gender or race (Mills et al., 2015). People with CKD are far more likely to be admitted to hospital than those without (Go et al., 2004), to develop complications while being hospitalized (Bohlouli et al., 2016), and to be readmitted to hospital (Daratha, 2012). Individuals with CKD interact with healthcare providers on a frequent basis for regular check-ups, lab tests, therapies, and, in the situation of advanced CKD, there is a demand for dialysis and/or kidney transplantation. Unforeseen hospital admissions are stressful events that occur unexpectedly, especially when admissions are made through emergency services. The occurrence of two or more long-term conditions that may have caused CKD, such as diabetes mellitus, or complications of CKD, such as cardiovascular

conditions, is common (Fraser et al., 2015). People with CKD are frequently subjected to polypharmacy and a high level of treatment burden, which has a negative impact on their quality of life (Mair & May, 2014). Hospitalizations may be directly related to CKD, such as fluid overloading or surgery, or they may be linked to other conditions that occur with advanced CKD, such as infections or cardiovascular events (Go et al., 2004). Furthermore, CKD patients are exposed to the risks of the healthcare environment, such as nosocomial infection and isolation, in addition to therapeutic action.

CKD is now widely recognized as one of the leading causes of death worldwide (Abubakar et al., 2015). Treating patients with kidney failure is a significant financial burden on healthcare budgets (Jager et al., 2019). According to the literature, people with advanced CKD who are not on dialysis cost two to four times as much as people of the same sex and age who are not on dialysis (Eriksson et al., 2016). Several studies have found that decreased kidney function is associated with increased hospitalization, with CKD being a significant predictor of hospitalizations even after comorbidities are considered (System USRD, 2017; Baumeister et al., 2010).

Although the amount of evidence indicating inadequate CKD care, little research has been conducted to investigate nurses' roles and how they might be improved. As a result, understanding nurses' roles in CKD care, as well as the barriers and facilitators that they face when performing these roles, is necessary in order to assess the current level of CKD care, examine potential challenges, and improve the standards of CKD care that nurses provide.

According to the systematic literature review, the increasing complexity of CKD necessitates the involvement of nurses who certainly play multiple roles in providing care

in order to achieve positive outcomes and effective disease management. However, the information found in the literature regarding nurses' roles in CKD care settings is limited. Very few qualitative studies referred to nurses' roles in a very superficial and vague way, as their primary intentions were not to look at the nurses' roles. In general, the roles of machine operator, holistic carer and patient educator could be mentioned. Furthermore, the review of the literature revealed various factors affecting nursing roles, including patient education, such as nurses' limited knowledge and sources of knowledge, nurses' educational level, lack of time, deficient support/administration guidance, and patients' level of compliance.

As a result of this literature review, it appears that there is a growing need to understand how nurses who provide care to people with CKD perceive and experience their roles. Additionally, there is a need to identify and study different factors that positively or negatively affect the implementation of nurses' roles and determine the standards of nursing care provided in CKD care fields. Thus, I developed the following research questions:

1. How do Cypriot nurses understand and experience the care of patients with chronic kidney disease (CKD), including patient education for self-care management?
2. How do Cypriot nurses view various factors affecting their roles in caring nephrology patients?

1.4 Rationale for the research approach

Because the research questions focus on nurses' experiences, a qualitative approach was chosen to understand social reality and to describe the lived human experiences

(Atkinson et al., 2001). Additionally, qualitative research studies are inductive, and the researcher commonly searches for meanings and intuitive understanding in a particular situation Corbin & Strauss, 2008; Levitt et al., 2017). The epistemological viewpoint of qualitative research is founded on interpretivism (Burr, 2003), whereas the ontological position of interpretivism is relativism which holds that reality is not unbiased because everyone perceives it differently (Guba & Lincoln, 1994), and thus there are multiple perspectives. Consequently, an Interpretative Phenomenology Approach (IPA) was chosen for this study to better understand, in depth, nurses' experiences concerning a specific situation, and what these experiences mean to them (Smith, 2004). To guide the reporting of my qualitative study, I used the consolidated criteria framework for reporting qualitative studies (COREQ) (Tong et al., 2007) (Appendix 1). Chapter 3 provides a more detailed discussion of the study's epistemological approach and the philosophical foundations of IPA studies.

In accordance with the underlying principles of IPA, the study's sample was purposive and homogeneous. More precisely, 16 nurses who had similar experiences and worked in CKD care participated in the current research. The sample consisted of nurses from all district hospitals throughout the entire island of Cyprus. To collect information on the experience of nurses working in nephrology care settings, semi-structured interviews were utilized, as they are the most suitable tactic for gathering data due to the likelihood of stimulating elaboration of interview questions while also keeping a consistent framework across the interviews (Dörnyei, 2007). This study implemented the core features of research ethics, such as consent, anonymity, and confidentiality. The Cyprus National Bioethics Committee issued a letter of approval (Appendix 2), and the Ministry

of Health gave permission (Appendix 3) to me to enter the hospitals to provide the information booklet to potential participants. As this study's aims were to identify similar experiences of nurses in CKD care, the steps of Smith and Osborn (2008) were followed for data analysis. Chapter 3 goes into great detail about the research methodology.

The findings of a systematic literature review, which assisted me in identifying gaps in existing literature and formulating the research questions for this study, are presented in the following chapter.

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

Chronic kidney disease (CKD) is becoming increasingly prevalent as an emergent global public health issue. Caring for patients with CKD presents a financial and medical burden because of the high morbidity and mortality risk associated with the disease (Hsu et al., 2006; Hwang et al., 2010). Furthermore, kidney diseases are associated with an estimated 188 million cases of catastrophic health expenditure in low- and middle-income countries (Essue et al., 2017). Therefore, due to the increased incidence and prevalence rate of patients on haemodialysis worldwide (Hassona et al., 2012), the importance given to prevention and advanced technology has dramatically changed and over the past decade an evolution has occurred in patient education (Bastable, 2008). In addition, over the last decade, in many countries there has been an increase in the development of specialist nurses/consultant nurses in areas such as anaemia management, vascular access, pre-dialysis counselling and clinics, conservative management, bone management, transplant nursing and renal nursing. Despite all these initiatives, evidence still suggests that CKD has not received the same attention as other chronic diseases such as congestive heart failure, although the prevalence and costs of CKD are substantial (Fishbane et al., 2015).

Most CKD patients undergo haemodialysis, which reduces the disease symptoms but affects their quality of life by imposing great stress on them. In assisting patients under haemodialysis, it is very important that a skilled multidisciplinary team works together due to the high risk of complications during treatment. The professional nurse's role in this team stands out for being in close proximity to patients in order to be able to identify and intervene in any possible complications, to promote the patient to adapt better to the

treatment, and thus, to seek a better quality of life (Nougeira da Silva et al., 2015). Therefore, specialized nursing care is required, and it includes forming interpersonal relationships, treating physical symptoms, and attending to the functional limitations, mental disorders, and educational needs of these patients (Shahdadi & Rahnama, 2018). Nurses are the main care providers for these patients, and their most important responsibility is to identify the care that is essential for these patients (Nobahar & Tamadom, 2016). Despite the complicated needs of CKD patients and the significance of the specialist's roles, there is huge variation in the sizes of nephrology specialist workforces across countries, which almost certainly impacts upon the availability and delivery of care for patients with kidney disease (Sharif et al., 2016).

Considering the importance of the quality of nursing care and the many changing factors and trends that influence the care provided, there is a need to understand how registered nurses (RNs) experience and perceive their role in CKD care, specifically in-patient education, and examine the factors that might facilitate or obstruct the implementation of these nursing roles.

A systematic literature review was carried out in an effort to capture all the available literature on nurses' roles related to CKD patients care and the factors affecting these roles, as well as to identify any gaps in the literature. The search revealed that there has been no other systematic review on the topic.

A systematic review is a summary of the research literature that is focused on a certain question or questions. It is performed in a rigorous and transparent manner to limit bias and it aims to identify, select, appraise, and synthesize all high-quality research evidence related to the questions (Bettany-Saltikov, 2012). According to Pati and Lorusso (2018),

a systematic literature review is considered the most robust level of evidence available on a topic of interest. The research questions that this literature sought to answer are:

- What are the nurses' roles in the care of patients with CKD?
- What are the factors affecting the implementation of these nurses' roles?

2.1 Methodology

A mixed method systematic review (MMSR) was performed to meet the aims of this literature review. The main objective of an MMSR is to blend qualitative and quantitative data from primary studies to gain insight into the existing evidence. MMSRs consolidate the findings from quantitative research on effectiveness and from qualitative research on people's experience of increasing their utility as decision-makers (Bressan et al., 2016) to create a deep understanding that can answer the review questions (Lizarondo et al., 2019). The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines help researchers to be transparent and comprehensive in their systematic reviews and meta-analyses (Liberati et al., 2009). The PRISMA guidelines entail a four-phase flow diagram and a 27-item checklist. The flow diagram describes the criteria to identify, screen, and include or exclude the reports that fall under the scope of a review. The 27-item checklist includes recommendations on topics such as title, abstract, introduction, methods, results, discussion, and financing (Liberati et al., 2009).

The electronic databases searched for this MMSR included CINAHL, British Nursing Index, PUBMED and MEDLINE. These databases were used because they are healthcare focused. Primary studies were retrieved by using the following keywords alone and in combination: "nephrology or renal", "nurses", "roles", "responsibilities",

“interventions”, “factors”, “facilitators” and “barriers”. The reference lists of the articles identified were also searched. The search was conducted from June 2013 until June 2014 and updated in 2019. This particular period for reviewing the literature was opted for as a result of the scientific development and technological evolution in the treatment and care of CKD patients and the consequent changes in nurses’ roles.

All articles were reviewed individually by two other researchers who examined the titles and abstracts according to the inclusion criteria. Only primary research papers which reported nurses’ roles and the facilitators or barriers to CKD care were included.

The inclusion criteria for the chosen research articles were that they:

- focused on CKD care
- referred to the roles of nephrology nurses
- included nurses in the study sample
- were written in English or Greek language
- were published between 2004 and 2019.

In this search of the literature, the specialized and non-specialized nephrology nurses were not distinguished because few countries have specialized nephrology nurses. Consequently, nurses’ roles and the extent to which they performed those roles differed from country to country. For that reason, we believed that including all nurses working in CKD care settings would give us a broad understanding of their roles irrespective of their specialisation. Also, the reason for choosing articles written in English or Greek is because the researchers involved in this study speak only those languages. Finally, only primary research was included, because we wanted to ensure that we had the views of the original author and not secondary views of another researcher.

2.2 Critical Appraisal

All research articles meeting the inclusion criteria were assessed by two autonomous appraisers using the following Joanna Briggs Institute's Qualitative Assessment and Review Instruments: Critical Appraisal Checklist for Qualitative Research; Critical Appraisal Checklist for Analytical Cross-Sectional Studies; Critical Appraisal Checklist for Prevalence Studies; and Critical Appraisal Checklist for Quasi-Experimental Studies. These appraisal checklists assess the methodological quality of a study and determine the possibility of bias and if the ethical issues have been addressed (Holly et al., 2013). The Joanna Briggs Institute's Qualitative Assessment and Review Instruments, including the questions, can be found in Appendix 4.

2.2 Data extraction

The extracted data from the research articles consisted of authors, title publication year, methodology, aims/purposes, sample, data collection methods/instruments and findings. Two researchers worked on this step.

Table 1: Critical Appraisal Checklists

Joanna Briggs Institute Critical Appraisal Checklist for Qualitative Research

Authors &Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
Bennett (2011	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bonner (2007)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Da Silva et al. (2015)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Greer et al. (2012)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Griva et al. (2012)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Matthews & Trenoweth (2015)	Unclear	Unclear	Unclear	Unclear	Unclear	No	No	Yes	Yes	Yes
McCarthy et al (2009)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Murphy (2004)	Yes	Yes	Yes	Yes	Yes	No	No	No	Yes	Yes
Nougeira Da Silva et al. (2015)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Shahdadi & Rahnama (2018)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Tejada-Tayabas et al. (2015)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
Tranter et al. (2009)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tuyisenge et al. (2019)	Yes	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Walker et al. (2010)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Joanna Briggs Institute Critical Appraisal Checklist for Analytical Cross-Sectional Studies

Authors &Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
Thomas-Hawkins et al. (2008)	Yes	Yes	Yes	Yes	No	N/A	Yes	Yes

Joanna Briggs Institute Critical Appraisal Checklist for Studies Reporting Prevalence Data

Authors &Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Easom (2000)	No	Yes	No	Yes	Yes	Yes	Yes	Yes	No
Higgins & Evans (2008)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Lindberg & Lindberg (2012)	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Sinclair & Levett-Jones (2011)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Joanna Briggs Institute Critical Appraisal Checklist for Quasi-Experimental Studies

Authors &Year	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9
Hassona et al. (2012)	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes

2.3 Data synthesis

Content analysis method was utilized for the data synthesis. Content analysis is defined as systematic, rule-governed, and theory-driven analysis of fixed communication (Mayring, 2019), and it refers to the systematic means of categorizing the findings into themes (De Chesnay, 2014).

Throughout this literature review, content analysis was used to classify the nurses' roles in the care of patients with CKD and the factors affecting the implementation of these roles. The analysis of the articles was carried out according to Zhang and Wildemuth's (2009) process, which consisted of eight steps.

The first step was to prepare the data by transforming them into written text before analyzing them. Thus, we converted the chosen research articles into Microsoft Word documents. According to the second step, we defined the unit of text to be organized by selected certain themes expressed in single words, phrases, or paragraphs. In the third step, categories and coding schemes were developed both inductively and deductively. To guarantee the consistency of coding, a coding manual was developed that comprised the names of the categories, definitions of codes, rules for assigning codes, and examples. In the fourth step, we proceeded to test the coding scheme on a sample of text from the first three research articles. In the fifth step, coding of the entire units of text was completed. New themes emerged that were added to the coding manual. During the sixth step, after we had finalized coding all of the data, we rechecked our coding consistency. In the seventh step, we made inferences and reformed the meanings derived from the data. Lastly, in the eighth step, we reported our analytical procedures and processes in an honest manner and presented our findings.

2.4 Results

Initially, the search procedure yielded 687 articles, but, after removing the duplicates, 108 remained. Thereafter, 62 articles were found irrelevant to our study, and seven were not primary research studies. The abstracts of the remaining 39 articles were read with scrutiny to appraise their relevance to our research inclusion criteria. Finally, 16 articles were eligible and included in this systematic literature review. We also added three more articles from the references, resulting to a sum of 19 articles for analysis (Table 2).

The PRISMA flowchart depicts the selection process and the rationale for exclusion (Figure 2). The articles originated from 12 countries: 5 from Australia, 3 from USA, 2 from Ireland, and 1 from UK, Brazil, Singapore, Egypt, Sweden, Iran, Mexico, Rwanda, and New Zealand. The majority of the studies (n = 19) had a qualitative approach, whereas six followed a quantitative approach.

Table 2 summarizes the key features and the main findings of the selected studies.

2.5 Themes

Two themes, the second with a number of sub-themes were identified. These are described below.

1. Nurses' roles in nephrology units
2. Factors affecting nephrology patient education
   - Sub-themes:
     - Nurses' lack of knowledge
     - Sources of knowledge
     - Educational level
     - Lack of time
     - Lack of support/administration guidance
     - Patients' compliance

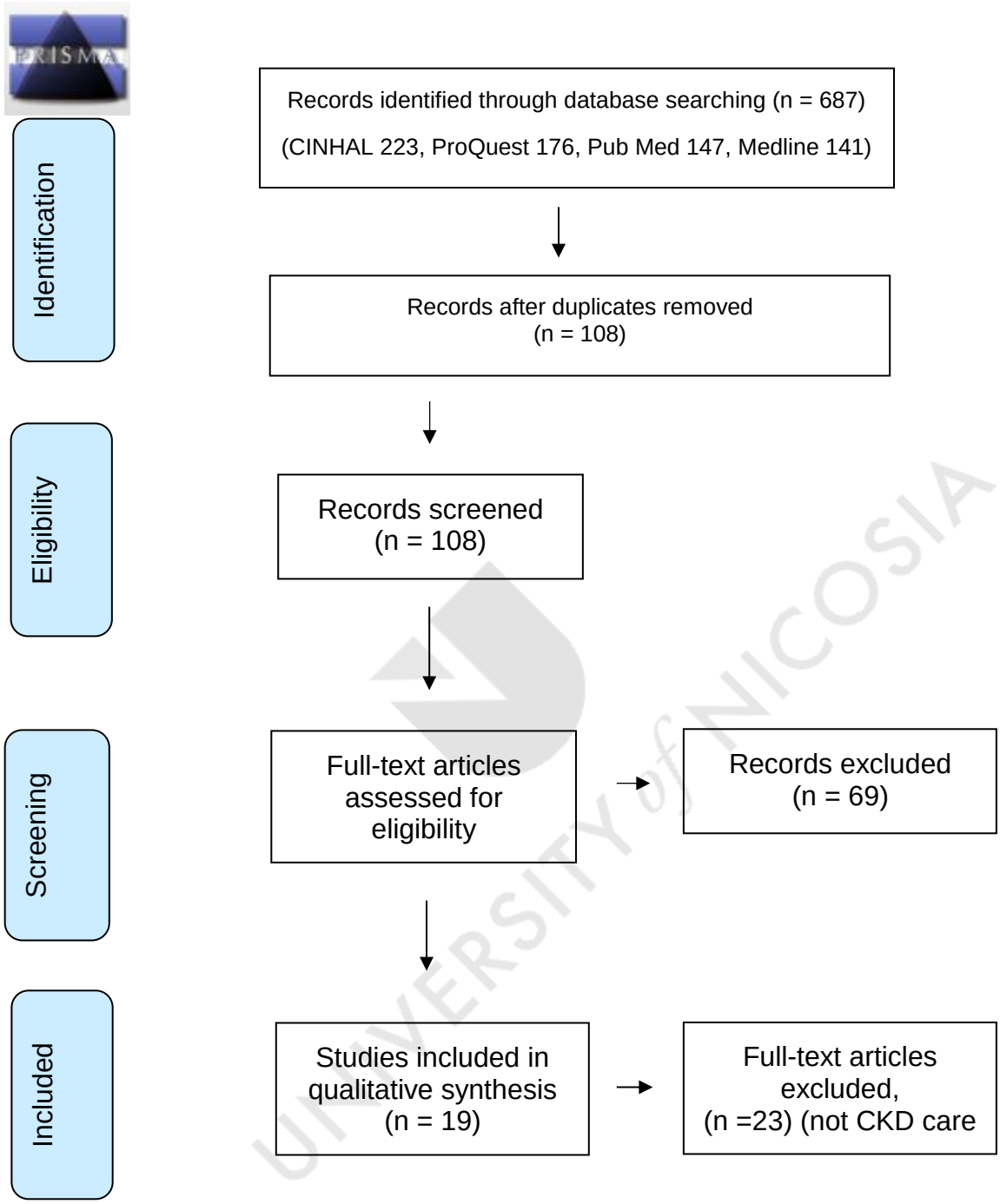


Figure 2: PRISMA flowchart with the search strategy of the systematic review

2.6 Nurses' roles in nephrology units

The role of nurses in caring for people with kidney failure is of great significance, since it can improve patient outcomes and contributes to the implementation of initiatives from the national, professional, and commercial organisations to prevent chronic kidney failure (Compton et al., 2002). This theme seeks to describe nurses' roles in caring for people with kidney failure. However, not a lot of information was found in the literature except from three qualitative studies whose primary intentions were not to look at the nurses' roles, although they referred to these roles.

For example, a descriptive, exploratory study conducted by Nogueira da Silva et al. (2015) aimed to identify nurses' perceptions of the systematisation of nursing care for patients with chronic renal failure. The study, after being approved by the Research Ethics Committee of the United Faculties of the North of Minas Gerais, was conducted at a Centre for Dialysis in Brazil. The sample included only two nurse specialists in nephrology and health education who coordinated the unit. The participants signed an informed consent before the data were collected through semi-structured interviews. The data were analysed through content analysis.

The category "activities developed" was one of eight categories that were developed from the participants' responses. Regarding this category, participants reported that the care provided to chronic renal patients consists of diagnostic, curative, psychological and social activities to prioritize the humanisation of care and encourage self-care. These roles are very important in nephrology care; however, the study did not give further details on what these roles mean for the participants and how they actually accomplish them.

Table 2: Selected articles on CKD care settings

N	Authors	Methodology	Sample	Data Collection Methods	Findings
1	Bennett (2011)	Qualitative / Ethnography	8 nurses	Non-participant observation, semi-structured interviews and document analysis.	Participants highlighted technical knowledge and skills in addition to intimacy, humour and patient education as determinants and main features of quality nursing care in a satellite dialysis unit.
2	Bonner (2007)	Qualitative / Grounded Theory	6 non-expert nurses and 11 expert nurses	Participant observations, interviews, and analysis of nursing documentation.	Expert nurses provide accurate and precise rationale for their practice, perform more teaching than other nurses and utilize a number of sources to extend their knowledge such as postgraduate courses, continuing education programmes, conferences, and journals. Non-expert nurses demonstrate superficial nephrology nursing knowledge and limited experience.
3	Nogueira da Silva et al. (2015)	Descriptive, exploratory study	2 nurse specialists	Semi-structured interviews	Nephrology nursing roles are diagnostic, curative, psychological and social activities to facilitate prioritizing the humanisation of care and also encourage self-care
4	Easom (2000)	Survey	47 nephrology advanced practice nurses (APNs)	37-item questionnaire	APNs ranked their current practice in order of importance: clinical practice, patient education, case management, research, staff education and administration. They reported that the barriers to practise these components were lack of third-party reimbursement (37%), limited prescriptive authority (37 %), lack of hospital admitting privileges (20 %) and limited scope of practice (13%).
5	Greer et al. (2012)	Qualitative	18 primary care practitioners (PCPs) (15 physicians and 3 nurse practitioners)	Questionnaire and focus group interview	The barriers to patient education about CKD were the patient's low awareness of CKD and poor recognition of CKD as a medical problem, the PCP's views of CKD as not a distinct medical problem and the PCP's own lack of adequate knowledge or skills to educate patients about CKD. Moreover, the fear of emotionally

					overwhelming patients, patient visit time constraints / lack of reimbursement for CKD education and lack of educational resources were also mentioned as barriers.
6	Griva et al. (2013)	Qualitative	37 CKD patients	Interviews and focus group interviews	Time restriction and the shortage of staff were considered as barriers to adherence since they felt discouraged to ask questions and try to acquire further knowledge and skills.
7	Hassona et al. (2012)	Quasi-experimental	35 nurses	Questionnaires and participant observation	Nurses had unsatisfactory knowledge about haemodialysis care before the implementation of an educational programme, but after the programme, they showed improvement in their knowledge.
8	Higgins & Evans (2008)	Survey	140 nurses	Self-completion questionnaire	Haemodialysis nurses had insufficient knowledge in relation to the use of antiseptic solutions, the necessity of wearing plastic aprons and face shields and the appropriate usage of them. Also, the lack of agreement in terms of infection control guidelines was highlighted.
9	Lindberg & Lindberg (2012)	Survey	325 haemodialysis nurses	A postal questionnaire	Insufficient knowledge of haemodialysis nurses specifically about MRSA was indicated by the results.
10	Matthews & Trenoweth (2015)	Qualitative	10 nurses	Semi-structured interviews	Nurses highlighted the importance of self-management but some of them seemed not to fully understand this term. Additionally, they did not give details on how they support patients to self-manage their condition
11	McCarthy et al. (2009)	Qualitative / Phenomenology	8 peritoneal dialysis nurses	Semi-structured interviews	The patients' inability or their deliberate choice not to participate in PD is one of the factors affecting patient compliance. Additionally, the need to evaluate nurses' teaching approach and how they communicate essential messages to patients was highlighted.

12	Murphy (2004)	Qualitative	10 nurses	Semi-structured interviews	Participants highlighted the lack of continuing education for staff and the lack of support from nursing managers with reference to such courses. Additionally, the absence of an appropriate induction approach for new staff, including newly qualified nurses, was expressed.
13	Shahdadi & Rahnama (2018)	Descriptive phenomenology	9 nurses	Semi-structured interviews	Nurses' high educational level was perceived as a crucial factor that contribute to the care provided in heamodialysis. Upgrading of nurses' education level and the availability of dialysis training programmes have been emphasized as very significant facilitators of effective, ideal and high standards care.
14	Sinclair & Levett-Jones (2011)	Survey	51 Nephrology Nurse Educators	Questionnaire	Limited time availability and workload were identified as two major challenges towards patient education.
15	Tejada-Tayabas et al. (2015)	Ethnography	2 nurse technicians 4 nurses and 3 nurse specialists.	Self-completed questionnaire, semi-structured interviews, and observation	The heavy workload was expressed as a barrier to coordinate hospital-home care. It was emphasized that the multiple patients' needs go beyond the availability of human resources and time and the need to enhance the nursing staff in numbers and training was high lightened.
16	Thomas-Hawkins et al. (2008)	Cross - sectional survey	422 nurses	Questionnaire	The limited number of nurses in heamodialysis settings in relation to patients' number is strongly correlated with more important nursing interventions left undone and considerably linked to greater likelihood of unfavorable patient incidents in the heamodialysis unit.
17	Tranter et al. (2009)	Ethnography	15 nurses and 48 patients	Participant observation and semi-structured interviews	A lot of nursess time was consumed by activities for using the dialysis machine during dialysis sessions. Additionally, time was spent on non-direct patient care actions, like writing reports. Other important nursing activities related patients' physical and psychosocial needs were given less significance.

18	Tuyisenge et al. (2019)	Qualitative	12 nurses	Semi-structured interviews	Nurses expressed worries about their educational preparation and the consequent limited theoretical knowledge and necessary skills to provide the required level of care in haemodialysis units. Most participants felt they were not very capable of meeting haemodialysis patients' holistic needs and particularly of monitoring them during the dialysis session, or counselling and supporting them emotionally.
19	Walker et al. (2010)	Qualitative / descriptive exploratory	11 nurses	Semi-structured interviews	Building rapport and trust, providing holistic care, and educating patients were expressed by participants as their roles in pre-dialysis nursing care.

The lack of any comprehensive description about their roles is probably because it was not the intention of the study to research nurses' activities. The low number of participants (n = 2) and the fact that both were working in one dialysis centre could be considered a limitation of the study, and consequently, its results cannot really be generalized to the whole population.

An earlier study conducted by Walker et al. (2010) described in more detail nurses' roles in caring for patients with kidney failure even though they focused on describing and discussing pre-dialysis nurses' perceptions of what constitutes effective pre-dialysis care in New Zealand. This is a qualitative study that used a descriptive exploratory methodology, including 11 nurses from the pre-dialysis nurse annual meeting group list. They collected data from semi-structured audio-taped phone interviews, and they analysed their findings with guidance from the general inductive approach. The first category that developed was the "nurse–patient relationship", where nurses described that building rapport and trust is an important aspect of their job in providing effective pre-dialysis nursing care. Another important category that came up through the participants' comments was the "assessment". In particular, they described the importance of a thorough holistic assessment which involves taking account of all aspects of patients' lives, such as their physical, mental, spiritual, cultural, family, and psychosocial well-being. The majority of participants reported that they would complete a holistic assessment at the initial meeting with patients and ongoing assessments at subsequent meetings. Furthermore, the participants referred to their timely and appropriate educational role and described that this is an important indicator of effective care. They explained that they educate their patients by involving them in discussions around treatment options and assisting them to make the most

appropriate modality choice. Also, they referred to the significance of the nurse-led clinics and group sessions as effective in providing patient education (Walker et al., 2010). That study gave more details on nurses' roles in caring for kidney failure, and in comparison, with the study of Matthews and Trenoweth (2015), the participants in Walker et al. (2010) gave emphasis on their educational role.

The aims of the Tranter et al.'s (2009) ethnographic study was to look into the culture of the hospital haemodialysis unit (HHU) to obtain an inclusive understanding of how nursing care was performed and to recognize the structural and interpersonal enablers or barriers to the provision of patient centred care in the HHU. The study was carried out in the haemodialysis unit of a large teaching hospital in Sydney, Australia. The HHU is open six days per week, morning, and afternoon shifts, and has 12 machines in use. Because the study was an ethnographic one, all people involved in the HHU activities participated in the study. The main participants were 15 nurses and 48 patients. Other participants such as medical and other healthcare staff, patients' carers and visitors were present at the HHU for limited periods of time for the duration of the study.

The nurses working in the HHU, either part time or full time, had different experiences in nursing, and the patients had heamodialysis sessions three times per week. The nurse–patient ratio was one nurse to four patients. The data were collected through participant observations and formal interviews over 12 months. The observations were accomplished in 280 hours over nine months and during different shifts and days of the week. The semi-structured interviews were conducted after the observations were completed. They lasted about 30 to 40 minutes each and used open questions. Only nurses and patients were interviewed since the study focused mainly on the

interactions between these two groups. Twelve patients and 10 nurses were interviewed.

Patients were asked about their feelings and experiences in the unit as well as their physical, psychological and social symptoms and restrictions. Also discussed was the nursing care provided and the primary nursing model employed in the unit. Nurses were asked whether they were providing technical or patient-centred care and, additionally, to determine the degree of patient satisfaction from the care delivered in the unit. The suitability of the primary nursing model utilized in the unit was also discussed.

The research study was approved by the hospital and university human ethics committees.

The findings of the study revealed the following five themes: “doing more with less”, “who gets a machine?”, “technological creep”, "dialysis centred care” and “the bottom line. All the themes were considered as factors affecting nurses to offer and implement patient-centred care to patients of the HHU. Specifically, the theme "dialysis centred care” disclosed that nurses’ time was mostly consumed on activities such as using the dialysis machine and the dialysis sessions. Furthermore, they spent time on non-direct patient care activities, like writing reports. Other important nursing activities related to patients’ physical and psychosocial needs were given less significance. According to participants, the reasons for not achieving patient-centred care were the doctors’ perceptions that nurses’ practice in the unit should be focused on dialysis-related issues only and that some nurses choose to work in the HHU because the technology attracts these nurses.

“The bottom line” theme disclosed the limitation of the care provided was because nurses mainly paid attention to issues involving the machine and dialysis and

neglected other aspects of holistic care. The result is that nurses do not really “know” their patients as multidimensional beings with multidimensional needs. Furthermore, nurses do not have the chance to develop interpersonal skills.

Matthews and Trenoweth (2015) sought to look at the way nurses perceive the self-management issue of CKD patients admitted to the renal care ward in relation to their role to support it. The sample of the study consisted of 10 registered nurses working on the renal ward and having six months to 16 years of experience. The data were collected using semi-structured interviews and analysed using the three-level coding strategy suggested by Corbin and Strauss (2008). Three themes were derived from the coding of the data that showed nurses’ sense of unpreparedness and their resulting unwillingness to support patients’ self-management in inpatient renal care. In the “expectations of roles” theme, participants gave emphasis to the trend to provide care in the hospital, as they perceived that to be their main role, which actually counteracts the patients’ self-management activities during their hospitalisation. Also, nurses clearly expressed their worries about who would be accountable for the consequences if a patient made any mistake or if the admitted patients are unable to care themselves safely.

The second theme, “lack of confidence”, disclosed the nurses’ inadequate preparation in relation to CKD and required care and therapies, as well as their lack of trust in the patients’ abilities. Nurses’ lack of confidence made them feel unable to supervise and support patients’ self-care actions. Additionally, they were intimidated by the presence of experienced and knowledgeable patients.

The third theme titled “concerns with risk-taking” expressed participants’ reservations about patients’ self-management, and this was related to their own professional

accountability and the patients' safety. They emphasized the necessity for a certain policy to enable and motivate nurses to be engaged and support patients' self-management. Furthermore, they highlighted the absence of a tool that would allow nurses to appraise the suitability of the patients' capability of caring themselves.

2.7 Factors affecting the implementation of nurses' roles

The literature supports that there are several factors that affect nurses' education of patients.

2.7.1 Nurses' lack of knowledge

A few studies indicated that nurses lack knowledge in the area of nephrology care (Hassona et al., 2012, Higgins & Evans 2008, Lindberg & Lindberg, 2012). Specifically, the findings of these studies suggest that nurses lack knowledge to care and educate nephrology patients, and that they have limited sources for gaining such knowledge.

A qualitative study by Murphy (2004) was designed to explore renal nurses' perceptions of stress within their HD unit in Ireland. The sample consisted by 10 renal nurses who were selected with simple random sampling. Data were collected through a semi-structured interview which included six open-ended questions. Content analysis was used to determine the categories and themes of these nurses' thoughts, feelings, and perceptions towards stress. The results brought to light six overall themes that cause stress to these renal nurses: job content, resource issues, professional concerns, professional working relationships, extrinsic factors and coping mechanisms. There were various sub-themes identified within the main themes.

The theme “professional concerns” embraced the sub-theme named “education/opportunities for staff development”, in which the issue of education was discussed by the majority of the participants who emphasized its importance. They highlighted the lack of continuing education for staff and the lack of support from nursing managers to attend courses. Additionally, the absence of appropriate induction for new staff including newly qualified nurses was expressed. According to participants, ongoing education is required in order to maintain professional standards of care. The proper training of renal nursing staff should be continuing, not only to adjust to the recent progress of nursing practice and advancements in technology but also to respond to psychosocial issues of renal patients.

A quasi-experimental study conducted by Hassona et al. (2012) aimed to evaluate the effect of an educational programme based on clinical practice guidelines to improve the knowledge and performance of nurses in haemodialysis settings. The study, through three periods of data collection, identified that nurses had limited knowledge on specific treatments for nephrology patients. Thirty-eight nurses worked at that time in the haemodialysis unit at Zagazig University Hospital in Egypt, and 35 of them participated in the study. However, the fact that authors used a convenience sample and that they used only one dialysis unit limits the generalisability of the findings.

During the first period which lasted six weeks, two tools were used to collect data: a demographic tool and a knowledge questionnaire, which were distributed to each nurse at the beginning of their shift and collected at the end of the shift. The demographic tool had six questions which assessed the sources used by participants to acquire information about haemodialysis. The second tool was a previously

validated questionnaire which assessed nurses' knowledge about the care of patients receiving haemodialysis. Additionally, at this stage, four trained academic nurses and the researcher observed the performance of all participants for one dialysis session using an observational checklist. The checklist assessed individual nurses' performance during regularly scheduled shifts in the work area of the participants. The checklist had four main sections: (a) direct care to the patient undergoing haemodialysis; (b) care for patients with intradialytic problems; (c) infection control measures; and (d) health education provided to the patient. There were 211 observable actions on the checklist and the total satisfactory performance score was at 253 or more out of 422 possible points. Observation of each nurse performance was carried out during their scheduled shifts and lasted three to four hours depending on the time of the dialysis and time needed to observe all behaviours on the observational checklist.

During the implementation period, which lasted six weeks, the nurses attended 10 sessions of classroom instruction and each participant received a handbook that had standards of nursing care on haemodialysis and the national clinical practice guidelines. Throughout the evaluation period, the same knowledge questionnaire and observation checklist was used. Data collection lasted four weeks immediately after the implementation, and after three months following the implementation period, a second evaluation occurred using the same tools.

The nine-month period of this study could be considered as a factor which might allow other factors such as seminars or other training courses to have an effect on the outcomes of the research. Certainly, the small sample size will affect the generalizability of the results. All the tools were developed by the investigator, and

they were based on the Canadian Association of Nephrology Nurses and Technologists (CANNT) standards of care and the Egyptian guidelines for haemodialysis nurses and a literature review. Content validity of the knowledge questionnaire and observation checklist was further performed.

The study showed that a high percentage of the participants (85.7%, n = 30) had unsatisfactory knowledge about haemodialysis care at baseline, overall, and in nearly all subcategories. The authors suggested that this might be due to the lack of preparation during basic nursing education, the absence of an orientation programme, the lack of periodic training programmes or limited access to other resources such as journals. In addition, the study showed significant improvement with regards to their knowledge after the implementation of the programme due to the comprehensive content and its specificity to the area of their work. Also, before the intervention part, participants were asked about patient instruction, and only 11.4% (n = 4) of them had a satisfactory knowledge of this. However, there were statistically significant improvements in the total numbers of participants achieving satisfactory performance in items related to direct care and health education in post and follow-up tests if compared with the pre-test. However, there were areas in which no significant improvements were found: leakage of blood, session termination, application of universal precaution. Therefore, the findings of Hassona et al.'s (2012) study provide some evidence that nurses might lack knowledge in several areas but after acquiring some extra theory and skills they could improve their own state of knowledge and consequently the care provided to the patients in certain areas, including patient education. However, the authors offer no explanations of how they managed to

minimize the observers' influence on participants' behaviour and to mitigate the Hawthorne effect (McCarney et al., 2007).

According to Polit and Beck (2008) during the observation data collection there is a risk that participants may alter their behaviour and perhaps act differently when knowing they are being observed in an attempt to present themselves in a better light. Therefore, nurses may show significant improvement in patient care after the implementation of a part of the study, but there is the risk that these changes are not true, as participants might alter their behaviour. Consequently, the possibility of the Hawthorne effect may affect the generalizability of the research findings.

A further study, which provides additional evidence to the findings of Hassona et al study, is Lindberg and Lindberg's (2012) study, which aimed to describe the relationship between self-rated knowledge and actual knowledge about Methicillin-Resistant Staphylococcus Aureus (MRSA) in haemodialysis nurses. A postal questionnaire was distributed to 411 haemodialysis nurses from 19 haemodialysis units in Sweden, and 326 of them completed the questionnaire. This resulted in a good response rate of 79%.

The questionnaire measured self-rated knowledge and actual knowledge about MRSA. Self-rated knowledge was measured using one statement that was graded according to degree of agreement or disagreement about their knowledge on caring for an MRSA colonized patient. Then nine statements covered their knowledge of the nature of MRSA, its prevalence and spread, symptoms and treatment, common sites of colonisation, and infection control measures. However, the authors did not report anywhere in the study the name of the questionnaires and whether they have been used before for data collection.

The results showed that the majority of respondents (45%, n = 147) rated their MRSA knowledge as fairly knowledgeable, few respondents (4%, n = 13) estimated as excellent knowledge and even fewer (2%, n = 7) considered themselves not at all knowledgeable about caring for an MRSA colonized patient. However, similar to Hassona et al.'s study (2012), the responses to the knowledge statements in this study indicated insufficient knowledge of nephrology nurses specifically about MRSA. In particular, 84% (n = 274) wrongly answered questions regarding the prevalence of MRSA, while some respondents (2%, n = 7) had very insufficient knowledge and only had one or two correct answers. Also, respondents lacked knowledge on common sites of colonisation and prevalence, with 53% and 84%, respectively, incorrectly answering statements referring to these items. In conclusion, the results showed that a considerable proportion of haemodialysis nurses lack core knowledge about common sites of MRSA colonisation, its prevalence or treatment, as well as infection control measures, even the fact that up to 76% of patients on dialysis in different centres are staph aureus nasal carriers (Ghasemian et al., 2010). Therefore, as it has already been mentioned, insufficient knowledge amongst nurses may have an impact on limited and poor knowledge gained by patients (Livingston & Dunning, 2010) and consequently, if nurses lacked knowledge in MRSA care, patients would also have poor knowledge about it. This could have a negative outcome on patients' conditions.

Analogous to the studies by Hassona et al. (2012) and Lindberg and Lindberg (2012), Higgins and Evans (2008) also aimed to examine nurses' knowledge and practice but on vascular access infection control amongst patients being haemodialysis in the Republic of Ireland. The researchers used a confidential self-completion questionnaire

and sent it to all 190 qualified nurses working in nine haemodialysis units. The questionnaire was grounded on certain guidelines used in the Republic of Ireland (National Kidney Foundation, 2000; CDC, 2002; European Renal Association (ERA), 2002; Health Prevention Serveillance Centre (HPSC), 2005) as well as on a literature review concerning infection control, and it contained mainly closed-ended questions.

The researchers initially conducted a pilot study by sending the questionnaire to 45 nurses employed in seven haemodialysis units, who were excluded from the main study. Two of the haemodialysis units were in the Republic of Ireland and the other five were in Northern Ireland. The researchers did not report the response rate, the results of the pilot study or any possible changes in the questionnaire. Data analysis was conducted using the SPSS V15 (SPSS Ireland Ltd, Dublin, Ireland). Of the 190 questionnaires sent to participants, 140 were returned for analysis, with a good response rate of 74%. However, the authors did not specify the procedure of questionnaire administration.

In addition, despite having a good response rate the researchers did not clarify how many hospitals and haemodialysis units exist in Ireland. The findings of the current study are consistent with those of Hassona et al. and Lindberg and Lindberg, since they indicated that the participating haemodialysis nurses also lack knowledge, although in relation to the use of antiseptic solution, the necessity of wearing plastic aprons and face shields, and the appropriate usage of them. For example, it was indicated that the majority of the respondents (56%) did not actually know that the minimum hand-washing time is 15 seconds (CDC, 2002; HPSC, 2005); whereas the respondents underestimated the required time when using antiseptic solutions for skin or central vein catheter antisepsis and care. Half of the respondents using 70% alcohol

for pre-needling antisepsis declared that the maximum rubbing action time was 10 seconds or less while the manufacturers suggest allowing time for the alcohol to dry and no minimum rubbing action time. The vast majority of the respondents who used 10% Povidone Iodine for skin cleansing (83%) and for soaking CVC tubes (93%) allowed only 2-3 minutes instead of the recommended action time of 3-5 minutes (NKF, 2000). Furthermore, the results also highlighted the lack of agreement in terms of infection control guidelines.

The findings of that study (Higgins & Evans, 2008) could be applied to the Cyprus context, since their study showed that only half of the participants are qualified in nephrology nursing, whereas in Cyprus there are no specialized nurses in nephrology. In addition, there are no agreed infection control guidelines in Cyprus either, which is something that the Ministry of Health is currently trying to establish.

It is evident from the above literature that general nurses lack knowledge on the care and education of nephrology patients. Studies have used both qualitative and quantitative methodologies and methods to collect data. The studies related to renal wards used questionnaires and observations as well as interventions for data collection. Studies related to general nursing used the qualitative tradition with focus groups to collect data. The above studies demonstrated that renal nurses lack knowledge on haemodialysis care, giving patients instructions, health education, MRSA, infection control in haemodialysis patients and patient education theory. In addition, studies show that nurses may be deprived of knowledge because of limited access to sources such as seminars, conferences, or journals.

Bennett (2011) investigated how nurses working in satellite haemodialysis units perceive quality nursing care and how aspects of power affect the implementation of

quality nursing care. This ethnographic study was carried out in a metropolitan haemodialysis satellite unit in Australia. The ten-machine unit was run by nurses to meet the dialysis needs of 40 patients. All 12 nurses were registered and most of them had attended a certification course for renal care. The project was approved by Flinders University and the main hospital's ethics committees. The sample composed of eight nurses who consented to participate in the study. Their experience ranged from less than one year to 15 years. The data collection lasted for a year, and the methods used were non-participant observation, semi-structured interviews, and document analysis. Each participant was observed three times for one to two hours and interviewed twice. Every document utilised by nurses was analysed in relation to observations and interviews. The data analysis, which was initially based on Auerbach and Silverstein (2003) and NVivo (2005) qualitative coding methods, resulted in three themes: what is and what is not quality satellite haemodialysis nursing care, and what factors influence the quality of this care.

Participants highlighted technical knowledge and skills in addition to intimacy, humour, and patient education as the main determinants of quality nursing care in the satellite dialysis unit. Nurses claimed that they have particular technical knowledge in relation to the operation and management of haemodialysis machines as well as the various blood tests that are relevant to haemodialysis patients' conditions and therapy. Such blood tests included Kt/V, haemoglobin, albumin, iron and blood electrolytes. Nevertheless, the satellite unit nurses admitted their limited understanding of Kt/V and its importance, and this resulted in an incomplete application of Kt/V prescriptions in their everyday nursing practice. Their willingness to know more about Kt/V was voiced,

but they said they could not find literature on it, which discloses their inability to seek out appropriate literature.

A very recent research project was conducted in Rwanda by Tuyisenge et al. (2019). They aimed to look at the factors affecting the implementation of nursing practice in providing care to HD patients. Their research study was carried out in four haemodialysis units in Rwanda. Twelve nurses were chosen and involved in the study through purposive sampling. The sample size was determined by data saturation and the objectives of the research study. Data were collected through semi-structured interviews. The interview guide was made of open-ended and probing questions to encourage participants to deeply describe their views and feelings regarding the influencers of their practice in the HD units. The guide was derived from an extended literature review and the aspects of experts in the field of nephrology care. The thematic analysis approach described by Clarke and Braun (2013) was applied to analyse the collected data. The study was approved by the ethics committee of the University of Rwanda and permitted by the associated hospitals' review boards.

The analysis of data extracted two main themes, the "facilitator factors" and "barriers", and eight subthemes. One of the barriers identified by the participants was "self-perceived knowledge and skills insufficiencies". Nurses expressed their worries about their educational preparation and the consequent limited theoretical knowledge and necessary skills to provide the required level of care in haemodialysis units. The vast majority of the participants felt they were not capable of meeting the patients' holistic needs and, particularly, of monitoring them during the dialysis sessions, or counselling and supporting them emotionally.

2.7.2 Educational level of nephrology nurses

Bonner's (2007) grounded theory study was conducted in order to gain an understanding of the acquisition and exercise of nephrology nursing expertise. However, the author did not specify which approach of grounded theory was used. The study was carried out in a renal unit in New South Wales, Australia, which consisted of several inpatient and outpatient areas. Nurses who worked permanently in this hospital were invited to participate in the study after institutional ethics approval. The selection of the participants was devised from existing literature and consisted of identifying two types of nurses: experts and non-experts. The criteria included the length of nephrology nursing experience; formal nephrology nursing postgraduate education; personal characteristics; perceived level of practice; and whether nursing peers recognised the nurse as an expert nurse.

Using purposive then theoretical sampling, a total of 17 nurses, consisting of six non-expert nurses and 11 expert nurses, were studied. All but one was female. The author did not report how nurses consented to participate and how many nurses were invited to participate. Although, this is a grounded theory study and data collection was extensive and reached theoretical saturation, the sample size was relatively small and therefore, generalisability of the findings should be made with caution.

Data collection occurred over a nine-month period, consisting of a total of 32 episodes (103 hours) of participant observations and 37 episodes (24 hours) of interviews and 10 episodes of nursing documentation. The data discovered a substantive grounded theory which explicated a basic social process of expertise acquisition and its exercise. The basic social process occurred in three stages: non-expert, experienced non-expert, and expert stages. Each stage consisted of four inter-related conceptual

categories that described how the nurse practised. These categories, or characteristics, of nephrology nurses were knowledge, experience, skill, and focus.

One of the findings was that expert nephrology nurses had built their knowledge from courses such as postgraduate courses and through attending continuing education programmes. These provided them with significant knowledge to support their practice and allowed them to be at the forefront of nephrology nursing. Moreover, the expert nurses were able to provide accurate and precise rationales for their practice, they knew more than other nurses when to perform an activity and they knew why it needed to be done and the consequences of an action. For instance, during the study, a satellite haemodialysis unit was trialling a new vitamin E-impregnated dialyzer on selected patients. The non-expert nurses knew only that these were different dialyzers, whereas expert nurses knew precisely why the dialyzers were being trialled, on whom, why and what the results were. A significant component for being recognised as expert nurses was their ability to teach others, such as patients, families, other nurses and medical staff. Moreover, in Bonner's (2007) study, it was apparent that expert nurses were able to perform most of the teaching compared to other nurses, and they worked in areas with a predominant patient teaching load, for instance, having to teach patients how to manage either haemodialysis or peritoneal dialysis at home.

Bonner's findings are further supported by Hassona et al.'s (2012) study which has also been described above. Hassona et al. found that nurse's lack knowledge is due to limited preparation which results to insufficient nurse's knowledge. For example, the pre-phase of the study showed that only 11.4 (n = 4) nurses had satisfactory knowledge on patients' instructions. Four weeks after the implementation phase of the study, 91.4% (n = 32) of the nurses showed a satisfactory knowledge on patients'

instructions, and three months after the study's implementation, 82.9% (n = 29) nurses had satisfactory knowledge. In addition, responses suggested limited resources for staff nurses in this setting. Moreover, as it has been previously said, the study showed that participants (85.7%) lacked knowledge about haemodialysis. The authors suggested that this might be due to the lack of preparation during the basic nursing education. However, the authors did not give further explanation about the meaning of insufficient undergraduate training in order to understand whether there are any gaps in the undergraduate course on haemodialysis.

In Cyprus, there have been no research studies to support any of the above findings. It could be argued that these issues are related to the nurses who work in nephrology wards. The only source of their knowledge is from their undergraduate courses and possibly some very limited seminars.

Furthermore, Greer et al. (2012) aimed to identify primary care providers' perceived barriers to educating patients about CKD during routine clinical visits. Three focus groups of 18 primary care practitioners (PCPs) (15 physicians and three nurse practitioners) were held to assess providers' perceived barriers to educating patients about CKD during routine clinical visits. A convenience sample of participants was recruited between April and October 2009 from Baltimore, Maryland area practices in the USA, at the Maryland Chapter of the American College of Physicians and the John Hopkins Community Physicians. The participants had to be in active practice as a licensed PCP, who provided comprehensive, longitudinal care for patients and clinical care for patients with CKD. Oral/written consent was obtained. The study protocol was approved by the John Hopkins Medicine Institutional Review Board, the institutional ethics committee.

Each participating PCP completed a self-administered questionnaire at the beginning of the session, which included questions to assess their personal demographics and their clinical practice characteristics. To provide the PCP with common context, a hypothetical scenario was developed by the authors describing a 60-year-old African American man presenting as a new patient. This patient had poorly controlled hypertension and diabetes, elevated cholesterol, obesity and laboratory values consistent with CKD. Then, the PCPs were asked open-ended follow-up questions during focus group interviews to identify their perceptions regarding the importance of educating their patients about CKD and their barriers to educating similar patients.

The barriers that emerged from the results of the study regarding educating patients about CKD were the patients' low awareness of CKD and poor recognition of CKD as a medical problem, the PCPs' views of CKD as not a distinct medical problem and the PCPs' own lack of adequate knowledge or skills to educate patients about CKD. Moreover, the fear of emotionally overwhelming patients, patient visit time constraints / lack of reimbursement for CKD education, and lack of educational resources were also mentioned as barriers. Many of the barriers reflect global issues regarding the delivery of all types of chronic disease education during primary care visits (Greer et al., 2012).

The objective of Tuyisenge et al.'s (2019) study, which has been discussed earlier, was to investigate the factors affecting the performance of nurses providing care to HD patients. The study was conducted in four haemodialysis units in Rwanda, and the sample consisted of 12 nurses. The data were collected through semi-structured interviews. The sub-theme "nurses' education and specialty preparation" was perceived by the vast majority of participants as one of the most significant facilitating

factors that improved the implementation of their practice. Nurses argued that they had attended a number of training courses on haemodialysis machines that improved their performance in the unit enormously. However, poor educational and training preparation was perceived as a barrier too and was classified as “self-perceived knowledge and skills insufficiencies”, which has been discussed. Many nurses expressed feelings of their inadequate educational level and training in order to work effectively in the haemodialysis field. Specifically, they believed that they had no abilities to psychologically support HD patients and most of them articulated their limited capability, which has a negative result on their work performance.

A descriptive phenomenology study by Shahdadi and Rahnama (2018) intended to describe the experiences of nurses in haemodialysis care. The study was conducted in a haemodialysis unit in Amir al-Momenin Hospital, in Zabol city, Iran. The sample consisted of nine nurses who had a bachelor’s degree and more than one year experience in haemodialysis. They were chosen through purposive sampling until data saturation. The data collection method was that of semi-structured interviews which were composed of open questions to allow participants to freely express their points of view on haemodialysis care. The face-to-face interviews were conducted in a room in the heamodialysis unit and lasted 45 minutes to one hour in one or two sessions depending on the time available or the tolerance of each participant. Certainly, the time limitation and resultant pressure during the interview may lead incomplete data being gathered. It could also lead to a contrary result, where the participants create opinions under time pressure to finish the interview. In this case, more data are gathered but they are not entirely reliable (McGrath et al., 2019). For data analysis the

Colaizzi technique was employed. The Ethics Committee of Zabol University approved the study, and all participants gave their informed consent before the interviews.

Two main categories emerged from the findings of the study, namely “mutual factors affecting care”, with two sub-categories, and “mutual care outcomes”, also with two sub-categories. The nurses’ educational level was included in the “care facilitators” sub-category, and it was perceived as an essential factor to the care provided in haemodialysis. Upgrading of nurses’ education level and the availability of dialysis training programmes were emphasized by the study participants, who recognized them as very significant facilitators of effective, ideal, and high standard care.

2.7.3 Sources of knowledge

There is evidence from two specific studies pointing out nephrology nurses’ lack of knowledge in caring for renal patients is due to the different source they have for gaining knowledge (Bonner, 2007, Hassona et al., 2012).

Bonner’s (2007) study, which has previously been discussed, aimed to describe the process of acquiring expertise in a grounded theory study into nephrology nursing practice. The study concluded that there is a three-stage process: non-expert, experienced non-expert, and expert stages.

Bonner’s findings showed that the expert nurses utilised a number of sources, such as attending professional seminars and conferences, reading journals, or learning from medical staff to add knowledge, and their vast experience. The findings also suggested that expert nephrology nurses have extensive large resources of knowledge drawn from postgraduate courses and through attending continuing

education programmes, such as conferences and workshops. Expert nurses were able to provide accurate and precise rationale for their practice and for the consequences of their actions. Non-expert nurses demonstrated superficial nephrology nursing knowledge and limited experience. They acquired basic nephrology nursing skills and possessed a narrow focus of practice. Therefore, it can be clear from Bonner's findings that sources of knowledge contribute to the acquisition of expert knowledge and advanced skills.

The findings of this study could be related to the context in Cyprus. Taking into consideration the small size of Cyprus, as a country, it is reasonable that the options for nurses to access various knowledge sources, such as conferences, seminars, and several professional journals, are extremely limited.

Bonner's findings are further supported by a more recent study conducted by Hassona et al. (2012), which focused on sources of knowledge. Hassona et al. (2012) provided evidence supporting the limited resources for staff nurses in relation to educational activities. As it has been previously mentioned, the study used three tools to evaluate the knowledge and performance of haemodialysis nursing staff at Zagagig University Hospital, Egypt. The results indicated that haemodialysis nurses' lack of knowledge was due to the absence of an orientation programme in the haemodialysis unit, the lack of periodic training programmes and limited access to other resources such as journals or conferences.

These findings could also be strongly related to the situation in Cyprus. This is because nurses' access to scientific nephrology nursing journals is dependent on individual initiative and fee payment.

2.7.4 Shortage of staff / Lack of time

In Murphy's (2004) qualitative study, mentioned above, the researcher intended to look at the renal nursing personnel's' perceptions of stress in their HD unit. The theme "resource issues" comprised two sub-themes "time management" and "understaffing", which both have an effect on the quality of nursing care. Time management was a significant stress factor for the nurses of this study, and they argued that it obstructed the care given to patients. Nurses expressed feeling pressured every morning to connect patients quickly to their HD machines, as the time it takes for patients to receive their treatment has a domino effect on the treatment schedule for the rest of the day. It certainly creates a vicious circle, as both nurses and patients get frustrated and results in the feeling that the HD unit has a production line atmosphere.

Understaffing, the second sub-theme included in the theme "resource issues", was strongly interrelated with the availability of time, and some participants claimed it added extra pressure on nurses in this specialized area. The consequent lack of time and the busy working environment had undoubtedly impacted on the achievement of the nurses' goals and the provision of quality holistic care.

In 2007, nephrology educator networks were established online, and membership was extended to nephrology nurse educators (NEN) in New South Wales. A survey by Sinclair and Levett-Jones (2011) aimed to describe and reflect on some of the outcomes and challenges faced in developing a nephrology educators' network. The study intended to identify what participants would like to gain from NEN, the direction the NEN should take, the current issues concerning nephrology nurse education in Australia and participants' thoughts on the challenges they faced as regards the

sustainability of the NEN. The instrument was pilot tested by eight educators from a local Area Health Service who did not take part in the final survey. The instrument included five domains: general information pertaining to role, benefits and group direction, challenges, terms of reference and corporate sponsorship. Questions were designed to extract both qualitative and quantitative data. The survey served as an advertisement for the NEN, with several respondents joining the network as a result. Eighty-eight questionnaires were distributed to nephrology nurse educators in all major nephrology departments in Australia. These were identified by using the index list from the Australian and New Zealand Dialysis and Transplant registry's parent hospital directory. Fifty-one questionnaires were returned, giving a response rate of 58%.

The study identified that the respondents recognized two major challenges towards education, which were time and workload. The respondents were, on average, responsible for four community-based dialysis units in addition to their primary place of work and 30% of them reported spending over 10 hours travelling per month. All this took up much of their valuable time and was identified as a major issue. Consequently, this could have an adverse effect on patient knowledge since nurses limited available time did not allow them to educate patients to the satisfactory level.

A qualitative and descriptive exploratory study conducted by Walker et al. (2010) on what pre-dialysis nurses perceived to be effective care supported the findings of Sinclair and Levett-Jones (2011). The pre-dialysis nurse was defined as "any nurse providing pre-dialysis education and care in New-Zealand". Fourteen nurses met that inclusion criterion and 13 of them received an invitation by email to participate in the research, while the other member was the interviewer. Eleven of them consented to participate in the research. The researchers did not report how they identified the

participants. All of the participants were classified as key informants, being expert in pre-dialysis nursing. The researchers used semi-structured audio-taped interviews lasting approximately one hour in order to record descriptions and discussions from the participants about their roles and perceptions on effective pre-dialysis.

The findings of the study identified five key themes that emerged relating to the pre-dialysis nursing role. One of these themes was the nurse's role as educator and supporter. Participants supported that a large component of their role and an important indicator of effective care is to ensure that patients receive timely and appropriate education. Similar to Sinclair's and Levett-Jones' (2011) findings, in the study of Walker et al. (2010) some of the respondents' reported that it is very frustrating for them to not have enough time to spend with patients so as to educate them appropriately and deal with a wide number of health, social and other issues that they are likely to need assistance with. However, a limitation of the study could be that the authors used only the nurses' perceptions about effective care, and it would have been useful to include patients and their families' opinions in order to identify consistencies or differences in aspects of effective care.

The ethnography study conducted by Tejada-Tayabas et al. (2015) aimed to look at the necessities and challenges of coordinated hospital-home care for patients on haemodialysis according to nurses' aspects. The research was carried out in a dialysis unit in Mexico, and the sample chosen with convenience sampling consisted of nine out of 15 nurses working in the unit. Participants were of different levels of expertise. Two of them were nurse technicians, four of them RNs, and the other three were nurse specialists. Data were collected through semi-structured interviews in a private room of the clinic. Every participant was interviewed twice for about 45 minutes each time.

Interviewing was completed when data were saturated. Additionally, observations were used to identify and take into account the way nursing care is provided in the haemodialysis unit. Participants' demographics were obtained through a self-completed questionnaire. Data analysis was done according to a structured content analysis approach and revealed three categories relative to the complexity of CKD, "the challenges for renal nurses", "the causes for deficient continuous home care" and "the barriers to coordinate hospital-home care". The study was approved by the research and ethical committee of the Autonomous University of San Luis Potosí. The participants verbally consented to be included in the project.

The heavy workload included in the "barriers to coordinate hospital-home care" category was expressed by the participants as one of the main obstacles to organise hospital-home care. According to the participants, the nursing care provided in the haemodialysis unit has progressed to a great extent. Nevertheless, it seems unfeasible for the clinic and haemodialysis unit to meet the raised requirements. The CKD rates continue to dramatically increase, resulting in a remarkably imbalanced nurses–patients' ratio that does not actually allow the provision of quality care to CKD patients. It was emphasized that the multiple needs of patients go beyond the availability of human resources and time, and the need to enhance numbers and training of the nursing staff was highlighted.

Thomas-Hawkins et al. (2008) was very focused on the issue of staffing. This cross-sectional survey aimed to examine the effects of patient to RN ratio, from the important duties that nurses left unaccomplished to more possibilities of adverse patient incidents. The study was carried out in the USA and the 2000 RNs for the sample were

randomly selected from the American Nephrology Nurses' Association (ANNA) membership register.

A survey packet was mailed to nurses' home addresses with follow-up reminders. A cover letter was included to explain the purpose of the survey, and it pointed out that completion of the questionnaire means their consent to be involved in the study. Completed questionnaires were returned by 1015 nurses, representing a 52% response rate. The study analysed the collected data from 422 participants working in chronic dialysis settings for differences in relation to nurses' level, patients' needs and unfavorable patient incidents between acute and chronic heamodialysis units. The Rutgers University Institutional Review Board approved the survey study before the data collection.

The survey questionnaire initially collected demographic data of the participants including age, gender, ethnicity, experience in general and nephrology nursing, training qualifications as well as renal specialty certifications. Moreover, a number of questions elicited answers in relation to nurses' staffing levels and numbers of patients having dialysis sessions in the last nursing shift to determine patient-to-RN ratios.

The questionnaire also asked for nurses to disclose their experiences with not completing essential nursing interventions during their previous shift as a result of the unavailability of time. These interventions included closely observing patients during dialysis, managing care, supervising staff, documenting care, and educating patients. Lastly, the survey questionnaire extracted the occurrence rate of adverse patient incidents that happened in the haemodialysis unit. The list of such incidents included emergency admissions caused by fluid overload or lung infection, vascular access problems, hypotension related to dialysis, interrupted, or missed dialysis sessions and patients' complaints.

The Pearson correlation coefficient was used to look at the relationships amongst the study's variables. The results of the study demonstrated a noticeable dissimilarity in regard to RNs staffing levels, as 25% of participants cared for 4.61 patients or less, whereas 31% cared for 12 or more patients. The mean patient to nurse ratio was 9.58 patients for every nurse. According to the findings, the limited number of nurses in haemodialysis settings in relation to number of patients is strongly correlated with more important nursing interventions left undone and considerably linked to greater likelihood of unfavourable patient incidents in the haemodialysis unit, such as interrupted or missed dialysis sessions and patients' complaints. The high patient to nurse ratios as well as the participants' answers for three or more interventions left undone by haemodialysis nurses considerably indicated increased occurrence of adverse patient incidents.

The very recent study by Shahdadi and Rahnama (2018), already discussed, confirms the continuity of the shortage of nurses and availability of time. The researchers conducted this qualitative study to explore the experiences of nurses for the duration of working with patients in a haemodialysis unit. Nurses participating in the study highlighted the shortage of nurses and consequent heavy workloads and lack of time. It was mentioned that increasing the number of nurses according to patient numbers would essentially contribute to the provision of effective and ideal care.

These research studies raise the questions about the availability of nurses' time to educate nephrology patients and whether this can have a serious impact on patients' conditions. This question demonstrates that there is a need to further investigate this issue.

2.7.5 Lack of support/administration guidance

The purpose of the phenomenological study of Shahdadi and Rahnama (2018), described above, was to find out the experiences of nurses working in a haemodialysis unit in Iran. The data were produced from nine nurses through semi-structured interviews. The findings identified inhibitors and facilitators of nursing care as well as the care outcomes for nurses and patients.

One of the care inhibitors was associated with insufficient management. Participants revealed factors that suspend the provision of successful haemodialysis care. Such factors include the nonexistence of machine technicians, the poor air-conditioning of the unit, the scarcity of equipment and devices, and the physical distance between head nurse and nurses on the unit, which results in very limited communication and cooperation among them. It was clearly pointed out that improving the management style would certainly meet the related deficiencies and could find solutions to advance the quality of nursing care given to haemodialysis patients.

A survey conducted by Easom (2000) to identify characteristics of the nephrology advanced practice nurses (APNs). The participants were 82 attendees at the January 1999 Advanced Practice Management Seminar in Savannah, Georgia. The total attendees were 413, and 82 completed the survey for a return rate of 20%, giving a low response rate which impacts on the generalisability of the findings. The study discussed the results from only 46 of the 82 respondents who identified themselves as advance practice nurses, which gave a return rate of 50% for the estimated number of APNs present. The study used a 37-item questionnaire, which originally was developed by the ANNA APN Special Interest Group (SIG) but was changed to some extent for this study. However, a weakness of the study was that a limited number of

advance practice nurses attended the seminar, and this might not be representative of all nephrology advance practice nurses. Also, the authors did not report any ethical approval for carrying out this research.

The study found that nephrology advanced practice nurses (APNs) ranked their current practice from 1 (least important) to 6 (most important) for the following components: clinical practice (6), patient education (5) case management (4), research (3), staff education (2) and administration (1). They reported that the barriers to practise these components were lack of third-party reimbursement (37%), limited prescriptive authority (37 %), lack of hospital admitting privileges (20 %) and limited scope of practice (13%).

Additionally, in a descriptive exploratory study described above, which was conducted by Walker (2010) in order to describe and discuss the role of the pre-dialysis nurse in New Zealand, found that the lack of guidelines regarding education was reflected in comments made by participants. Consequently, the amount and content of education that patients received appeared to vary from participant to participant. The authors suggested the need for more standardised pre-dialysis nursing care in New Zealand such as the implementation of guidelines for nurse–patient ratios and the components of patient education. As has been already mentioned, the study used semi-structured interviews to gain in-depth data from 11 pre-dialysis nurse key informants throughout New Zealand.

The above findings of the Walker (2010) and Easom (2000) studies were also supported by Higgins and Evans (2008), who highlighted the lack of agreement in terms of infection control guidelines. As already mentioned, the authors explored nurses' knowledge and practice in relation to vascular access infection control among

haemodialysis adult patients in the Republic of Ireland. Their study revealed the lack of consistency between guidelines in terms of central vein catheter (CVC) care, and they emphasised the need for standardisation between the dissimilar existing guidelines. Furthermore, the results showed that nurses are not aware of and involved in the updating process of policies on infection control. Over half of the respondents (55%, n = 77) who had an infection control policy in their unit did not know when it had last been updated. In terms of educating patients about what they could do in order to prevent infection, only 53% (n = 74) of the respondents had advised their patients to wash their arteriovenous fistulae and graft sites prior to dialysis.

Moreover, in the qualitative exploratory study conducted by Murphy (2004) and described earlier, the issue of administration support was raised. This study aimed to investigate how nurses working in an HD unit perceive their work-related stress. One of the six themes revealed by the results, namely “professional working relationships”, exposed aspects with regard to nurses’ relationships with colleagues and management. Nurses referred to conflicts between medical and nursing staff within the HD unit and complained that managers and doctors do not appreciate them. Participants affirmed that they work in a task-oriented and mechanistic way, focusing on conducting certain nursing tasks which could also lead to a lack of autonomy and a lack of job control. According to these participants, poor communication is also an issue causing non-conformity and leading to poor staff morale and job dissatisfaction, as well as to the provision of uncertain quality of care.

2.7.6 Patients' compliance

An important task of contemporary nursing practice is to prepare clinically ill patients to manage their long-term healthcare needs in their home environments (McCarthy et al., 2009). One of the procedures that many renal patients have to learn is how to manage the peritoneal dialysis at home. However, there is evidence in the literature that renal nurses express concern about patient compliance with their teaching being poor.

A study conducted by McCarthy et al. (2009) found several factors affecting patients' compliance. They conducted a phenomenological study in order to explain how renal nurses understand the term "peritoneal dialysis (PD) compliance", what nurses believe influences PD clients to follow, disregard or refine their advice and how renal nurses believe they can enhance PD patients' compliance. Nurse participants were recruited by purposive sampling as there was a small maximum pool of 10 participants working in PD in the public health district in Australia under investigation. A total of eight of these nurses participated in the study with the remaining two on extended leave.

An interviewer unknown to participants collected the data from semi-structured interviews, which lasted one or two hours. The interviews facilitated an in-depth exploration of personal and professional insights into PD practice. All but two nurse participants worked full-time in PD, with their years of specialized experience ranging from 18 months to 20 years. All were employed in the three-government funded renal facilities that serviced the health district. The patient base of these facilities was 400 PD patients from a variety of locations, ranging from remote Australian Aboriginal communities to inner-city neighbourhoods

The study findings revealed that one of the factors affecting patient compliance is their inability or their deliberate choice not to participate in PD, “sabotaging” their intention to comply. Also, the participants noted that patient non-compliance might also be a direct result of the physiological processes inherent in renal failure itself. For instance, patients with high blood urea and creatinine levels that characterise renal failure could impair a patient’s cognitive abilities, making it difficult for some renal patients to absorb the detailed information. Furthermore, the study found that focus is not placed on health professional failure to teach the patient properly, but on patients’ blinkered approach to their own education. According to participants, there is a need to evaluate their teaching approach and how they communicate essential messages to patients.

A qualitative study by Griva et al. (2012) sought to look at cultural perspectives of facilitators and barriers to treatment adherence in haemodialysis (HD) patients in non-Western settings and from Asian cultures. The study was conducted in 2009 at the National Kidney Foundation (NKF), Singapore, which is a non-profit charitable organisation that provides dialysis nationwide in 24 community-based dialysis centers. The convenience-sample consisted of 37 patients from five NKF dialysis centers in Singapore who were randomly selected through computer generated randomisation. Eligible patients for this study included Chinese, Malay and Indian patients on HD who were >21 years old and had been on HD treatment for at least six months. Patients under the age of 21 years at the time of the study and patients admitted in the hospital within a month of data collection were excluded from the research study. Patients suffering from dementia, mental illness or severe visual/hearing impairment were excluded too, in addition to the ones who did not fluently speak English or Mandarin. A dialysis nurse manager screened all potential patients for eligibility. Afterward, the

eligible patients were offered enrollment by a research coordinator who was independent to the renal healthcare team. Written informed consent was obtained before the data collection. The study was completed when themes were saturated. Both interviews and focus groups took place in a specifically allocated room in the NKF headquarters. All three focus groups were led by the same facilitator with the assistance of a co-facilitator to ensure consistency.

Three focus groups with 20 participants (n = 20) and 17 (n = 17) in-depth one-to-one semi-structured interviews were used to collect data. The two focus groups and 12 interviews were conducted in the English language, whereas the third focus group and the five interviews were conducted in Mandarin utilizing a bilingual translator. First, the interviews were recorded on tape and transcribed verbatim, and then coding was carried out using an iterative process. The results identified two themes: “perceived facilitators of adherence” and “perceived barriers to adherence”. Both themes included a number of sub-themes. One of the sub-themes to perceived barriers to adherence was “communication issues”, which revealed the difficult access patients have to receive treatment-related information and advice. Patients mentioned the difficulties to communicate with haemodialysis nurses as a result of time restriction and the shortage of staff. Participants complained of being cared for in a hurry, misinformed or even ignored by the staff. As a consequence, patients felt discouraged to ask questions and to try to acquire further knowledge and skills.

2.7.7 Conclusion

The review of the chosen research articles made it evident that the multifaceted nature of chronic kidney failure and essential care demands the participation of capable and

well-prepared nurses. Their practices require several roles in order to provide holistic care and achieve effective management of the patients' health conditions. The literature review revealed a number of roles including the provision of care, patient education and supporting self-care and self-management, but highlighted that the operation of the haemodialysis machine and the safety of the patient during the dialysis session was a major one. Patient education is so important for all people suffering from a chronic disease like CKD, and it is considered the cornerstone for self-management, but it is only provided by expert nurses who represent the minority of the nursing workforce in field of nephrology care. The literature has well documented the major impact of expert nephrology nurses. Roles that meet physical and psychosocial needs of the patients were given less importance.

The literature review revealed numerous factors which, according to participants, could act as facilitators or barriers for the implementation of various nursing roles. One of the most noteworthy factors is nurses' body of knowledge of CKD holistic care including patient education. It is evident by participants' perceptions and experiences that nurses have unsatisfactory knowledge to meet the multiple needs of such individuals. The level of knowledge can act as a facilitator in the case of specialized and expert nephrology nurses or as a barrier for inexperienced or poorly prepared nurses. The two most often mentioned barriers are time restrictions and nurse shortages. Additional factors disclosed by this review were the nursing administration or guidance, availability of resources and further opportunities for professional development. All these factors have been perceived as barriers by the vast majority of nurses because they are unavailable.

However, the factors that facilitate or obstruct the execution of nurses' roles revealed in this review do not include any factors relevant to nurses' response techniques to interpersonal difficulties that develop between nurses and patients, factors related to CKD care stakeholders, or other significant factors belonging to the work environment.

Taking into consideration all the above in relation to the continuously increasing rate of people with CKD and the variation of nurses' abilities to work in nephrology care settings, it is important to investigate further the necessary roles of nephrology nurses and give greater focus to the factors affecting the implementation of these roles. It is so important to find ways to develop the facilitators and impede the various barriers to the provision of effective nursing care to people with chronic kidney disease.

CHAPTER 3: METHODOLOGY

3.0 Introduction

The aim of this chapter is to illustrate the methodology which was chosen for the conduction of the particular research. The explication of the approach, techniques, and processes with some rationale for the adoption is stated as methodology. In addition, it refers to the critical moment at which researchers support their findings with robust theories (Smith, 2002). A researcher must have an in-depth understanding of the several approaches in order to ensure that an alignment occurs within its own stance, research aims and objectives.

Thus, in the upcoming sections, a more comprehensive elaboration of the qualitative approach used for this research is carried out. It also can be seen that the epistemological perspective is what underpins the qualitative investigation as examined through the interpretivist and positivist paradigms. To continue with, phenomenology was analysed in terms of its social phenomenological theories such as phenomenological sociology, social constructionism theory and symbolic interactionism, respectively. Nonetheless, a description with the reasoning of the selected approach, the IPA (Interpretivist Phenomenological Approach), and its origin from Phenomenology are presented. The limitations of IPA and alternative approaches were also discussed. Last but not least, an explanation of the sample population, collection of data, analysis methods, and themes of saturation utilised in the study were provided.

3.1 Qualitative method

According to Saldaña (2011), qualitative research methods are a broad concept that encompasses a variety of methodological approaches and techniques for exploring occurrences in social life. Sociologists, as well as anthropologists, began utilising this method in the early 20th century or as defined "the traditional age era of qualitative studies" while aiming for a description concerning phenomena in the societal structure (Mohajan, 2018). The postmodern phase of qualitative methods emerged from 1990 to 1995, with the introduction of novel ethnographies that since then, qualitative study has been recruited in a diversity of areas including sociology, anthropology, nursing, etc. (Miles and Huberman, 2009).

Qualitative research largely follows an inductive approach in nature, examining concepts and perspectives for comprehending a given scenario (Levitt et al., 2017). There are various techniques that might be used to accomplish this, especially when following naturalistic and interpretative methods. According to Hogan et al. (2009), the qualitative approach is characterised as multifaceted which examines society, behaviour patterns and culture by analysing and integrating people's actions and what they claim. The qualitative approach is comprised of two primary paradigms: interpretive and critical analysis. The fundamentals of the interpretivist approach are built on the context of social reality and the human interpretation of the particular experience (Atkinson et al., 2001). In most cases, investigators that adopt qualitative approaches, initially might not have a research question even though forming certain assumptions is inevitable. Finally, the qualitative method is associated with the

planning and analysis of recorded or textual data rather than numerical or statistical data (Hogan et al., 2009).

The significance of studying the social-individual interaction is well-acknowledged as the qualitative approach investigates the meanings of personal views and integrates them with not only the structure of society but also the comprehension of the meanings' process. On top of that, the qualitative method is defined by apprehending social engagements from the participant's point of view. As aforementioned, a distinguishing aspect of the qualitative approach is the collection and analysis of written data instead of numerical results. Textual information might include transcripts of interviews and interactions with responders, free-form responses to questionnaires, notes through observations and case studies. In order to grasp what a specific experience implies to the individuals being researched or how do they perceive the social world, essential is a prolonged and unrestricted engagement with the participants (Holloway, 2005).

The chief reason for choosing the qualitative method for the present study is the complexity of the topic and variety of experiences. The views and experiences of nurses working in nephrology care settings require a broader perspective and therefore, it is crucial to take a more comprehensive aspect of the issue and understand it in depth (Gillham, 2000). Data collection for qualitative research is based on open-ended, non-numerical data, which are subsequently analysed utilising non-statistical methodologies. For instance, a systematic interview can be undertaken, which will be transcribed, and hence, examined using qualitative thematic analysis. Furthermore, qualitative studies involve the analysis of vast volumes of data, such as audio interviews or even texts. In the process of analysis, data is converted into text

as it provides several benefits for the investigator. As an example, the acquired information may contain extensive and complicated data; nevertheless, the text allows a simpler coding of that data which eventually will assist in a considerably easier analysis (Dörnyei, 2007). Having explained the above, the qualitative method is the most suitable for this chosen topic so to unpack how nurses experience care of nephrology patients. Understanding to nurses' experience better reflect the epistemological foundations of qualitative research as discussed below.

3.2 Epistemology of qualitative method

The field of philosophy that seeks answers to the inquiries; "How" and "what can we know" is defined as epistemology that considers the nature of knowledge. Furthermore, epistemology involves considering what constitutes knowledge as well as the validity and trustworthiness of assertions (Cooksey & McDonald, 2011). According to Saldaña (2011), epistemology is the notion that knowledge is generated by the author's perspectives, experiences, and interpretations of the universe. Epistemology consists of two empirical viewpoints in the social sciences; positivism and interpretivism which will be discussed and analysed in the following subsection to explain the rationale for the study's adopted stance.

3.2.1 Positivist epistemological approach

The establishment of the positivist epistemological perspective occurred in the 1930s by August Comte. The particular approach asserts that perceptions and comprehension of the world are inextricably associated with the society's objectives and occurrences (Saunders et al., 2016). Positivism recognises the significance of the knowledge gained by investigating a phenomenon being objective due to the fact of

participants' daily lives not being involved throughout the conducted study. Grounded on that fact, it can be claimed the research is not biased due to the investigators not reflecting their personal beliefs (Howson, 2018). The aim of research in positivist paradigm is to acquire impartial empirical proof, based on the judgment of participants and without any personal aspects of the investigator. In addition, positivism's notion supports that external reality itself defines entirely the only true perspective, regardless of the method or occurrences of viewing.

Positivists believe that already existing assumptions can be accurately recognised and represent the truth due to altered perceptions by events, thus reality corresponds to how individuals portray it (Willig, 2013). According to August Comte, by using the fundamental principles of the systematic method of empirical observations and description of "how" events occur, human beings might be able of transforming society. As a consequence, positivism employs deductive reasoning, formulates, and evaluates hypothesis, provides adequate concepts, and utilise mathematics in order to forecast phenomena grounded on measurable outcomes in quantitative approaches (Kivunja & Kuyini, 2017). To continue with, positivism and empiricism are intimately associated as empiricism is the cornerstone of positivism and supports that reality is universal, quantifiable, and objective. Henceforth, empiricism reinforces the idea of humans sharing the same reality, which can be viewed and distinguished by using science. Moreover, it mostly depends on perceptions to obtain information and gather whilst also classifying observations by following a systematic approach (Willig, 2013).

3.2.2 Interpretivist epistemological approach

Interpretivist approach is an increasingly major method that is regarded the epistemological stance of the qualitative approach and was conceived as a counter to positivistic approach. According to Mack (2010), interpretivism is often stated as constructivism due to the belief of individuals constructing meaning and society constructing reality. According to Liu et al. (2016), interpretivism is linked to social approaches which claim that reality is socially constructed and might draw broad conclusions from individual viewpoints. The research's assumptions about reality are represented in the research ontology. The ontology for the primary questions will be subjectivist rather than interpretivist and the epistemology is concerned with the nature of knowledge, which is notably relativist in this case. As opposed to positivistic approach, interpretivism claims that subjects are interdependent with investigators become involved with them while asking them questions in an interview and record data (Kivunja and Kuyini, 2017). Interpretivist researchers are considered naturalistic as their observations of phenomena occur in real-world circumstances and do not modify or attempt to influence their participants (Tuli, 2010). Based on Neuman (2000), the primary aim of an interpretivist study is the interpretation and comprehension of human behaviour means, rather than to assume justifications. As a result, a researcher that follows an interpretivist approach strives to grasp the context of the drives and subjective perceptions. Similarly, instead of evaluating the rules of human behaviour, it stresses gaining knowledge of the world through realistic dialogues and accurately documenting the subject's quotes to obtain an insight view (Farzanfar, 2005). Researchers, who utilize interpretivist data collection methods, promote that

participants of the research express their thoughts freely and elaborate on their experiences.

This conducted research intends to comprehend in-depth experiences of nurses working in nephrology care settings thus, interpretivist epistemology is the most suitable method for this study. Besides that, phenomenology depends on interpretivism in order to achieve in-depth comprehension of human behaviour and social phenomena and will be more analysed in the following section.

3.3 Phenomenology

Phenomenology seeks to establish insights by portraying participants' perceptions, interpretations, and emotions about their experiences at a specific time in their life while also of great significance is comprehending an experience through firsthand knowledge. On the other hand, phenomenological tradition's practitioners' dispute on the essential principles of methodology and what defines the utilization of this method (Amos, 2016). For instance, Husserlian and Heideggerian were the initial phenomenology approaches and are commonly referred to descriptive and interpretive, correspondingly.

During the early 20th century, Edmund Husserl pioneered and regarded phenomenology as a technique to represent genuine meanings as consciously knowledgeable. In particular, he contended that positivist separation between subject and object was erroneous since everything is susceptible to an individual's point of view. Additionally, he argued that objectives are not comprehended in a passive way,

but rather via awareness and subjective experience. According to Husserl, quantitative scientific study could not explain all human phenomena due to the separation from personal experience, that inhibits us from perceiving ourselves (Husserl, 1970).

Martin Heidegger, Husserl's pupil, and subsequently academic assistant formed his field of philosophy termed hermeneutic phenomenology (Smith et al., 2009). Even though hermeneutic phenomenology was a continuation of descriptive phenomenology, Heidegger supported “bracketing”, which implies that investigators suppress their personal biases and opinions to prevent any impact during interpretation of an individual's experiences (Roberts, 2013). The utilization of language and interpretations of people's meanings, their recognitions of meaning to phenomena, are considered to be central to the Heideggerian phenomenology (Smith et al., 2009).

"Bracketing" is viewed as neither desired nor plausible within a hermeneutic framework and instead researchers are urged to use their knowledge of a particular phenomenon under examination as an initial point (Beech, 2003). The process of interpreting a text or phenomena in an interactional manner, moving in and out of the phenomena to achieve a more in-depth knowledge through various perspectives is defined as a hermeneutic circle (O'Leary, 2011).

According to Laverty (2003), both phenomenologists sought to comprehend how individuals perceive their surroundings, and they claimed that the reality of our world should be reconsidered due to not appearing to be objective. Throughout the years, Maurice Merleau-Ponty, Ademeo Giorgi, Jean-Paul Sartre and many others, contributed new ideas and approaches to the existing versions of phenomenology

(Smith et al., 2009). Phenomenology has influences analysis in certain fields such as sociology and more specifically a variety of social theories and methodologies that were employed as guidelines in this research in order to prepare the interview questions, as well as to analyse the responders' perceptions. The main social theories are phenomenological sociology, symbolic interactionism and special constructionism which are going to be more analysed below.

3.3.1 Phenomenological sociology

Alfred Schütz is widely recognized as the father of phenomenological sociology and grounded his notion on the existing theories of Weber and Husserl, who developed interpretative theory and philosophical framework, respectively. Schütz debated about the structuring of reality, highlighting the association between social interactions and the perception of the meanings of the participants' actions in real life. That is to say, he supported that understanding what unfolds in ordinary human daily life was vital (Jesus et al., 2013). According to Schütz, each perceived experience has its own meaning and is interpreted by others. The social world is structured, self-contained and orderly since it existed before any human being. Meanwhile, all individuals must interpret and create meaning of their personal experiences in order to make sense of the world. Typification is the concept that encompasses prudent judgment knowledge while also being incorporated in the language that individuals share, rather than being personal inventions (Rehman, 2018). Thus, as the research's topic involves the decisive role of nurses in the provision of care to CKD patients including patient education, whilst also the barriers and facilitators of these roles, phenomenological sociology has informed the interview guide and analysis of this study. It intends to

include the perceptions and experiences of nurses during daily practice while enabling them to articulate the meaning of their actions.

3.3.2 Social constructionism theory

The idea of social constructionism arose from the disciplines of sociology in the last 30 years. When utilizing qualitative methods, this particular social theory is allied with the postmodern era and follows an interpretivism approach of thinking (Andrew, 2012). Social constructionism theory supports that knowledge is formed via people's interactions within society (Schwandt, 2003). Besides Berger and Luckmann (1991), Hammersley (1992) also argued that reality is socially constituted by an individual's subjective experience of daily environments and comprehension of the world. According to the social constructionist thesis, people construct reality as they perceive it within a social setting (Gergen, 1999). Reality is shaped by culture, politics, history, and social contexts in which an action takes place while every individual should have a distinct reality as a result of our perspectives and experiences in the world (Willig, 2013). As a consequence, the reality is subjective and cannot be shared with others, yet it is ultimately independent of the individual experiencing it (Darlaston-Jones, 2007). Social constructionism is founded on relativism that implies reality is nonexistent outside of humans (Willig, 2013). On the contrary, individuals shape their reality based on their personal thoughts, prior experiences, and interactions with other people.

3.3.3 Symbolic interactionism

According to Benford (1997), analysing the behaviour of society on a micro-level is the perspective defined as symbolic interactionism. This approach was in the mid-20th

century conceived while prompted by Herbert Mead's concepts on the self-society association (Carter & Fuller, 2015). As a response to positivism which intended to comprehend social reality on a structural level while ignoring the involvement of humans, symbolic interactionism emerged (Carter & Fuller, 2015). From another point of view, symbolic interactionism investigates society from the ground up since it aims to clarify the way society functions by concentrating on micro-level methods that develop during social encounters. The particular philosophy premised on the notion that individuals respond toward things on the foundation of the meanings that these things have among them. Symbolic interactionism examines the interpretations of our surroundings and determines the ideal way to proceed (Oliver, 2011). It essentially claims that the only way of comprehending human behaviour is to engage in extensive and meaningful dialogue (Turner, 1988).

The research approach in this study, regarding the interviews, and for analysing the qualitative collected data, was informed by the three aforementioned social theories, phenomenological sociology, social constructionism theory, symbolic interactionism, largely in terms of preparing the interview guide and analysis. More importantly, the study heavily relied on Interpretive Phenomenological Analysis (IOA) which was developed as a precise research methodology based on phenomenology.

3.4 Interpretive phenomenological analysis (IPA)

As stated in "Phenomenology", Heidegger developed Husserl's theory by adapting to an interpretive approach, and hence, hermeneutic phenomenology which is the underlying basis for interpretive phenomenological analysis (IPA) (Amos, 2016). During the mid-1990s, IPA was further enhanced by Smith and others, who publicized

abundant articles outlining its development, techniques, and implementations (Smith et al., 2009). To continue with, IPA is an appropriate methodology for nursing investigations since it allows researchers to obtain a deep insight into how nurses conceive their roles in nephrology care which might result in different health behaviours (Roberts, 2013).

Due to IPA's theoretical principles being grounded on hermeneutic phenomenology, it employs an idiographic perspective that emphasizes humans' subjective experiences and the premise that all people should be explored in a distinctive manner. An idiographic perspective differs from a nomothetic perspective as it is utilised to collect in-depth detailed information on humans, whereas nomothetic perspectives strive to construct principles of humans' actions that could be applied to social groups and demographic segments (Amos, 2016).

IPA also acknowledges the necessity of the way an investigator interprets the textual data for developing a cohesive research study (Biggerstaff & Thompson, 2008). This methodology recognizes that immediate connection to the lives of study participants is unattainable. In what Smith and Osborn (2008) refer to as the double hermeneutic, the researchers develop an understanding of individuals who are simultaneously attempting to create meaning of their own reality (Wagstaff & Williams, 2014). The essence of the research-participant interaction, according to Heidegger, is that the scientist's personal view of life is present when seeking to comprehend the experiences of participants (Willig, 2013). Subsequently, a phenomenological analysis emerged by demonstrating how individuals perceive their personal experiences. Interpretative engagement is a method through which the investigator may identify themes and then merges them into predetermined categories in order to make sense of textual data and interview transcripts (Willig, 2013).

Participants elaborate on a phenomenon from their perspective in descriptive phenomenology that might be utilised in IPA. Furthermore, researchers are able of using this approach either to define or analyse an occurrence (Roberts, 2013). Interpretive Phenomenological Analysis is followed by apprehensive investigators in narratives of important experiences that humans feel noteworthy when in comparison with the ordinary flow of experiences (Smith et al., 2009).

3.4.1 Limitations of IPA

The IPA method aims to acquire an insider's viewpoint on experience by observing and analysing the language individuals utilize in order to explain their occurrences. Therefore, individuals must be able to express their feelings and opinions, which might be considered complicated. Nonetheless, articulating the precise intricacies of experiences is challenging, particularly when humans are not familiarized with interacting in this manner (Willig, 2013). Smith et al. (2009) supported that our language and expression often affect how we perceive our experiences, posing yet another issue. In fact, language is constrained itself which might lead to barriers when it comes to adequately share our understandings (Jaeger & Rosnow, 1988). These assertions are potentially alarming for fairly inexperienced researchers; nonetheless, with the thorough guidelines and considerations concerning the interpretative process, assurance takes place.

3.4.2 Rationale for selecting IPA

Through the years, the adoption of phenomenology became a quite popular methodology for nursing research, claiming that the approach endears nurse researchers due to its emphasis on both patients' and nurses' subjective experiences (Green & Thorogood, 2018). Moreover, they highlight the fundamentals in phenomenology for uncovering the "necessities" in the field of nursing. Regarding the process of analysis, IPA provides detailed guidance to assist research in working through a variety of procedures and stages (Smith et al., 2009). Nursing studies have been chastised for promising to conduct phenomenological research without specifying whether the study is descriptive or interpretive (Beech, 2003).

Henceforth, it is crucial to illuminate that this underlying research conveys interpretivism epistemology, was alerted by phenomenological social approaches whilst ensuring adherence to the IPA approach for a better comprehension of nurses' roles in the provision of care to chronic kidney disease (CKD).

3.5 Consideration of alternative approaches

Grounded theory is a method for developing a theoretical description of a specific event (Glaser & Strauss, 1967). The development of this theory occurred for sociological study for better in-depth comprehension and explanation of various social processes (Willig, 2013). Exploring social processes emerges to prioritize understandings at a group level instead of an individual level. On the contrary, IPA concentrates on an idiographic perspective and is considered most suitable for this research. Another approach that spans a diversity of distinct variants, all of which have a similar concern with the constructive character of language is defined as discourse analysis (Burr, 2003). Even though discourse analysis is used to study how participants construct their identities throughout interactions, Smith et al. (2009), claimed that selecting a suitable methodology that is consistent with epistemological positions for the study is decisive. These theories were evaluated and concluded that the most appropriate method for achieving this research's aims and objectives is the interpretivist phenomenological analysis (IPA).

3.6 Research questions

The following research questions arose from the review of the literature:

1. How do Cypriot nurses understand and experience the care of patients with chronic kidney disease (CKD), including patient education for self-care management?
2. How do Cypriot nurses view various factors affecting their roles in caring nephrology patients?

3.7 Sampling

In accordance with the conceptual frameworks of IPA, the sample of individuals participating in this research was purposive and homogeneous. That aimed to develop a defined group of individuals who would consider research topics genuinely relevant and meaningful (Pietkiewicz & Smith, 2014). As a result, the investigator sought to recruit accredited nurses who are occupied in departments wherein patients in haemodialysis units, peritoneal dialysis units and in the nephrology ward. For ensuring that the interview queries were relevant to the interviewees and that they were enabled to provide a detailed and comprehensive description, the selection of sample occurred. Samples which follow an Interpretive Phenomenological Analysis (IPA), should be homogenous to the maximum extend whilst the researcher will be exploring how a particular group perceive a phenomenon (Clarke, 2009). In addition, according to Quinn and Clare (2008), a purposive homogeneous sample allows the investigator to collect data from individuals who have comparable specific experiences whilst also are more likely to assure saturation of that data.

Permission from the Ministry of Health was required upon gaining access to the sample consisted of nurses working in nephrology care settings in the five state

hospitals of Cyprus. After acquiring permission (Appendix 3), a meeting between the researcher and administrators of public hospitals' nephrology care settings took place to provide an information leaflet regarding the study. This participant information sheet (Appendix 5) encompasses the contact information of the researcher, hence anybody interested in participating in the research could come in contact and inform directly about concerns or questions about being involved with the study. Necessary was the consent (Appendix 6) of the participants in order to take part into the conducted research. Nurses responded whether by email or fax with their consent form to the email address provided in the information booklet. At the commencement of the present study, the primary objective was to recruit enough participants to achieve data saturation. The sample size comprised of sixteen individual interviews (Table 3) that are appropriate for the research, while agreeing to be interviewed and meet the study's criteria. The sample size is considered ideal for data saturation.

The criteria required for nurses participating in the study are now pointed out:

- Nurses working in nephrology care units
- Nurses working in public hospitals
- Nurses speaking the English or Greek language
- Nurses who have more than one year experience of working in nephrology care units

The reason for choosing to include nurses who work only in the five public hospitals is because private hospitals do not provide inpatient and systematic nephrology care to patients. Furthermore, the participants should work for more than one year in the nephrology area so that they can acquire the necessary experience that will allow them to have opinions based on their practice.

Table 3: Nurses participants in interviews

N	Sex	Age	Years of Experience	Hospital	Hospital CKD Services
1	Male	25	1	3	Haemodialysis
2	Male	31	6	5	Haemodialysis
3	Female	32	3	2	Haemodialysis/ Peritoneal/Nephrology Ward
4	Female	27	5	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
5	Female	45	14	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
6	Male	41	1	2	Haemodialysis/ Peritoneal/Nephrology Ward
7	Female	33	12	1	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward/Transplantation Unit/Autoimmune diseases
8	Female	33	12	1	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward/Transplantation Unit/Autoimmune diseases
9	Female	34	9	5	Haemodialysis
10	Male	35	16	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
11	Female	45	21	1	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward/Transplantation Unit/Autoimmune diseases
12	Female	34	15	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
13	Female	55	29	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
14	Female	36	14	2	Haemodialysis/ Peritoneal/Nephrology Ward
15	Female	47	25	2	Haemodialysis/ Peritoneal/Nephrology Ward
16	Female	52	29	5	Haemodialysis

Nonetheless, there is no set number of individuals that must be involved in research (Smith et al., 2009). Authors claim that a modest sample size is sufficient regarding IPA criteria since a high sample size would yield excessive data for the researcher to analyse in-depth (Smith et al., 2009). Moreover, they argue that doctorate students typically undertake up to ten interviews, despite the existing IPA studies mentioned in the literature with sample sizes from one to fifteen participants (Kelly & O'Brien, 2015). The sample size is usually determined by four key points: the in-depth analysis for each case study, how the investigators wish to compare the single cases, the pragmatic constraints of that case and finally how the researcher wishes to compare single cases (Pietkiewicz & Smith, 2014). Time restrictions and accessibility of interviewees are examples of pragmatic constraints. In spite of the topic in the study being rather focused, access to the participants was quite simple due to the vast range of potential interviewees. For instance, nurses working in nephrology care settings that encompasses haemodialysis and peritoneal dialysis as well as nephrology wards from all public hospitals in Cyprus assisted in finding suitable participants for the conducted study. As previously mentioned, the sample size was decided by reaching saturation which will be discussed in depth in the following sections.

3.8 Settings

Semi-structured interviews took place at the University of Nicosia or at location chosen by the participants, whilst also the date as well as time of the conducted interviews were determined by their choices. The directors of the School of Life and Head Sciences granted permission of utilizing a meeting room at the University of Nicosia.

The semi-structured interviews were conducted in Greek which then will be translated in English.

3.9 Ethics

The selection of participants for the research was subjected to various safeguards. The core features of research ethics such as consent, anonymity and secrecy were implemented in this study. The Cyprus National Bioethics Committee issued a letter of approval (Appendix 2). Furthermore, the administrators of public hospitals as well as the Ministry of Health permitted (Appendix 3) visiting the hospitals to provide the above-mentioned information booklet to potential participants. In other words, Participant Information Sheet (PIS) (Appendix 5), was provided to give participants the essential comprehension for the incentive and techniques of the research whilst also to give informed consent. As previously stated, permission was secured from the Ministry of Health to gain access to individuals who work with nephrological patients. Anonymity, voluntary consent, and confidentiality concerning personal information were established and guaranteed to all participants of the research. Nurses who are practicing in the nephrological care settings were notified that withdrawing their interview at any moment, their employment status will not be jeopardized (Polit & Beck, 2017).

The data obtained through this research will be safely locked in a period of ten years of which access will be plausible only for the researcher. The audio-taped semi-structured interviews were transcribed by utilizing Microsoft Word documents before being imported to Microsoft Excel spreadsheets for analysis. The files of data are protected with secure passwords which are only known to the researcher.

As above stated, the objectives and methodology of the conducted study were illustrated in the Participant Information Sheet (PSI). The offered information encompasses the procedures taken to preserve that each participant's confidentiality and anyone else who could be references throughout the data collection process and the secure storage of that data. In addition, it instructed participants on dealing with distress if it occurred as a result of their participation, both at the time or afterwards. Each participant established the comprehension of the information booklet and engaged to the requests of the research by signing the Consent Form. All forms were reviewed ahead of the initiation of the semi-structured interviews. The consent forms were signed by the participants and securely preserved while copies of the files are shown in Appendices.

3.10 Data collection methods

In this conducted study semi-structured interviews were employed to collect the data, which reflected on an interpretivist epistemology and the IPA methodology. This approach assisted me in comprehending events.

A semi-structured interview (SSI) was utilised to obtain qualitative data (Appendix 7). The purpose of the interview was the collection of information on the general experience of nurses working in nephrology care settings. These interviews utilized and motivated the selected participants to explain and expand on their responses in accordance with the planned interview questions which aimed to answer how heuristic biases influence decision making of retail investors and to what extent that also affects any market efficiency. Semi-structured interviews have been the most suitable tactic for gathering data due to the likelihood of stimulating elaboration of interview questions

while also keeping a consistent framework across the interviews (Dörnyei, 2007). As an example, unstructured interviews embolden partakers to be flexible and comfortable; yet it is quite easy for the interviewee to go in a path that is unrelated to the research (Dörnyei, 2007). In spite of this challenge, obtaining the required information might take a great period of time. On the other hand, structured interviews employ a rather rigid disciplined method that does not encourage participants to expound on their opinions, but instead to simply respond to questions (Wilson, 2012). The decision for conducting semi-structured interviews was made after thorough study of all alternative interview formats as SSIs provide a middle ground between organized and open-ended interviews (Dörnyei, 2007). Despite the fact that interview questions are pre-planned, candidates are urged to expound on their responses, permitting the interviewer to follow up on intriguing discoveries by asking further questions. Interviews must be recorded since the researcher will then be required to transcribe them for analysing properly the data. Even though transcribing is time-consuming and complex, it will enable the interviewer in comprehending the data and detecting trends (Hooley et al., 2012).

In this study, transcribing was deemed necessary since it allowed the investigator to take notes in order to better express the viewpoints of the respondents and portray them in a more accurate format.

Primary data is defined as the direct assortment of data by the researcher in order to fulfil the study's aims and objectives whilst also address the research question (Amaya et al., 2015). As previously stated, due to the research's approach that conducted on an interpretivist paradigm, qualitative data gathering approach is necessary. In terms of question categories, the researcher has decided to comprise interview questions

that are generally basic and unequivocal. The rationale for this is to avoid any false interpretations by providing the questions straightforward and to the point when it comes to answering the study inquiries. The interviews' duration was about 45 minutes while the researcher aimed to encourage participants to drive the conversation in their own paths.

3.11 Data analysis methods

According to Smith et al. (2009), there no agreement on how IPA analysis should be carried out, although a description of a process was presented that tend to be comparable for other authors (Wagstaff & Williams, 2014). In 2008, Smith and Osborn presented four steps of data analysis (further presented below) that might aid in identifying common experiences among a group of participants. Due to this study's aims to identify similar experiences of nurses in the CKD care the steps of Smith and Osborn (2008) were followed for data analysis. Besides the main goal of the study, which was to collect personal perspectives about their own roles including patient education, it was also required to comprehend phenomena. For achieving this goal, necessary was the separation of one or more themes from the data obtained from all participants (Smith et al., 2009). In addition, since this approach is interested in interviewees' inner perspectives, an IPA researcher must involve with the transcript by offering interpretations (Smith & Osborn, 2008). Thus, the researcher utilised the gathered data in transcripts to attempt to gain a better comprehension of the experiences of participants whilst also he weighed in on them based on his own interactions and interpretation of the data. The four phases developed by Smith et al.

(1994) are to seek for patterns, associate themes, analysing subsequent cases and publish the outcomes.

3.12 Looking for the themes

Smith and Osborn (2008) recommended that at this stage of the research, the investigator should dedicate time to analyse the first transcript.

Once the semi-structured interviews were completed, their analysis took place. To start with, the researcher reviewed the interviews numerous times, recording the participants perspectives, writing potential codes, and jotting down any data of particular interest in the left- hand margin until the researcher was familiarised with the transcript. After achieving this, the theme titles emerged and were placed in the right-handed margin. As a matter of fact, the latter were precise phrases aiming to detect the essence of the findings (Smith & Osborn, 2008). When analysing the transcript, parallel themes occurred multiple times until reaching the final themes of the first transcript. The same process was applied by a second researcher so as to verify accuracy and quality. Following that, both of the researchers discussed the outcomes and revised the themes and codes. The same procedure was followed for the rest of the semi-structured interviews which were individually analysed. The researcher looked over the initial analysis of the first transcript several times and finalised the cluster of themes. Similarly, to the preceding procedure, the researcher utilised the emerged themes from the first interview to guide the subsequent analysis.

3.13 Connecting themes

The researcher should list the key themes and identify its relation in the second phase (Smith & Osborn, 2008). For the present research, the investigator compiled all the discovered themes from the interviews' transcripts and imported them into an Excel spreadsheet. The emergent themes from the initial coding were displayed at the top of the documents, as well as the pseudonyms assigned to the participants on the left side. To continue with, the researcher reviewed all the themes using an analytic approach to uncover any broad categories that may be related and integrated, even unrelated themes. The transcripts were thoroughly analysed numerous times while clustering the themes that arose to ensure that the associations worked for the core source material.

The development of a table with the final themes occurred after grouping the themes since the detection of the cluster of themes is the ideal way of expressing the concerns of participants (Smith & Osborn, 2008). This aided the investigator in organising the analysis of the findings. At this point, the researcher eliminated any themes from the list that had insufficient evidence.

3.14 Continuing the analysis of other cases

Continuing to the third stage Smith & Osborn (2008) stated that the researcher should write down each transcript as a case study. Afterwards, the author is able of moving on to the second case and utilise the themes from the first case as a foundation for the ensuing analysis or even start working on the next transcript. In this instance, the researcher opted to utilise the first case to guide the subsequent study since it illustrates the methodological process for accomplishing themes saturation.

3.15 Writing up the results

Last but not least, Smith & Osborn (2008) mentioned the final stage of IPA which is all about concluding to the results of the research. The researcher writes down the findings and the concluding statement, which will outline the significance inherent in the perspectives and experiences of participants as revealed by the emerging themes (Smith & Osborn, 2008). To put it in another way, the final stage is to narrow down the analytic themes. As a result, the writing up stage will be describes in the following chapter, which the analysis of the gathered data and where the themes are expressed in a narrative format.

3.16 Data saturation

Data Saturation is the stage in the research process that investigators reached the point of deciding that there is no more data to explore, and data gathering may well be halted (Glaser & Straus, 1967). Despite the fact that this is IPA research, and the researcher followed a purposive sampling approach, the size is kept constant until theoretical saturation is reached. Whereas saturation often occurs in Grounded Theory and Inductive research, its utilisation in this conducted study aims to guarantee that the data obtained was adequate since the role of nurses in CKD care is not often qualitatively examined. Furthermore, there are existing IPA investigations with large sample sizes while saturation checks have been conducted. Kelly and O'Brien (2015), employed IPA to investigate the perspectives of 34 healthcare practitioners, relying on saturation as a sampling size. It was admitted that in IPA technique, there is not a standard sample size which one of the reasons is data richness (Smith et al., 2009).

Likewise, according to Cooper et al. (2012), data saturation has been employed in IPA research studies with a small sample size to corroborate the richness of their data. As a result, in this particular study, data saturation was carried out in order to verify the richness of the data.

In addition, as noted previously, IPA research ought to have a small sample size. Saturation is the assurance that the required depth of data has been obtained allowing a qualitative researcher to interpret and comprehend the data (Constantinou et al., 2017). Besides that, specified recommendations for determining the sample size in qualitative investigations were specified by only a limited number of scholars (Guest et al., 2006; Francis, 2010; Constantinou et al., 2017). For instance, Guest et al. (2006), provided a complete codebook in which the codes were developed and implemented. Nonetheless, this technique may be considered time consuming and challenging. Constantinou et al. (2017), added to this by acknowledging that some approaches for attaining data saturation whilst proposing the usage of the Comparative Method for Themes Saturation (CoMeTS) for reaching themes saturation in the interviews. In contrast to Guest et al. (2006), the CoMeTS methodology is simplified and more straightforward. The researcher engaged with this approach for the purpose of this study to ensure reliability while data saturation is considered to be a key quality maker (Constantinou et al., 2017; Vasileiou et al., 2018).

In our research two approaches to determine data saturation were employed, the thematic saturation and meaning saturation.

First, the Comparative Method for Themes Saturation (CoMeTS) approach was employed to test for thematic saturation in this research due to the closely resemblance of IPA's process of data analysis. To be more precise, the author used

the coding system to derive conclusions related to the research questions. Afterwards, the codes were categorized into themes based on common topics, resulting to a set of themes. For instance, the first interview was coded which resulted into the identification of numerous themes that were utilised as the foundation for the other interviews where new themes arose. All interviews with nursing staff were conducted using this comparative strategy as the comparison of the interviews identified not only mutual themes but also new themes emerged. On the other hand, new topics halted occurring after the eleventh interview out of sixteen.

According to Constantinou et al. (2017), the check for data saturation was determined by comparing each interview to the others and rearranging the sequence multiple times. During the comparison of the interviews 192 raw codes were detected whilst 21 themes were generated from all interviews. The first interview originally yielded 6 themes (Table 4). To continue with, a thematic comparison was carried out and based on the data collection from the first two interviews six mutual themes were identified and two new ones. At the moment, the overall themes of the study were 8. Ongoing to the third interview, six common themes emerged as from previous two interviews and a new one. Next interview yielded seven common themes and two new themes. This comparison technique was used for all interviews, with Interview 11 being the last to introduce a new theme. Since Interview 11, no new themes were identified, and the "saturation threshold" of the present study in the first round of themes comparison was achieved (Constantinou et al., 2017). As a result, by Interview 11, the researcher could claim that he reached theme saturation, with a total of 21 themes in all of the interviews.

Then, the interviews were mixed to examine if re-ordering of the sequence of the interviews would indicate a different data saturation point and the order-induced error.

The interviews were randomly rearranged twice and the third time we worked vice versa beginning from the interview 16 going back to the interview 1.

In the first round of interviews' random rearranging the data saturation was reached at the 14th interview and no new themes emerged. In the second round of interviews' random rearranging the data saturation was reached at the thirteenth interview and no more new themes emerged. In the third round of interviews in reverse rearrangement from the last to the first, data saturation was reached at the nineth interview.

As it can be illustrated from the above, thematic saturation of data upon rearranging the sequence of the interviews might occur at various periods than during the initial order. As a result, and based on Constantinou et al. (2017), data saturation of themes, were validated and achieved through reordering.

Table 4: Themes' saturation worktable for all Interviews

Number of Interviews	Number of Themes	Number of shared themes with previous interviews	Number of new themes	Total Number of Themes
1	6	0	0	6
2	8	6	2	8
3	7	6	1	9
4	9	7	2	11
5	8	7	1	12
6	9	7	2	14
7	10	7	3	17
8	9	7	2	19
9	10	9	1	20
10	8	8	0	20
11	9	8	1	21
12	9	9	0	21
13	8	8	0	21
14	9	9	0	21
15	7	7	0	21
16	9	9	0	21

Second, we used Hennink et al. (2017) approach to determine whether the sample size required for thematic saturation was also sufficient for meaning saturation. To identify meaning saturation, we chose eight themes or codes that were fundamental to the study's research questions. We used the coded data to search for the code in the very first interview, highlighting the different aspects of the matter described, then searching for the code in the following interviews and highlighting any new dimensions described, and so on until all 16 interviews were reviewed.

This procedure was repeated for each of the eight codes explored. We used the code routes to determine meaning saturation for each code, as additional interviews offered no further dimensions or understanding of the code, just recurrence of these. The number of interviews required to achieve meaning saturation for individual codes was then compared to the thematic saturation determined earlier. Meaning saturation was found to be achieved at the final interview where a new code dimension was discovered. For example, the code “Operators of dialysis machines” includes three dimensions identified in interviews 1, 4, and 6; as a result, it reached meaning saturation at Interview 6. The code “Rotation system” has 4 dimensions, identified across many interviews, and it reached meaning saturation at Interview 14.

Therefore, it is argued that our sample size, 16 participants, was appropriate to achieve thematic saturation and meaning saturation and no more interviews needed.

The issue of reaching data saturation has engaged many researchers such as Guest et al. (2006) who described in detail how to achieve saturation. They observed that after the analysis of 12 interviews out of 60, saturation of data had mostly reached approach is very interesting and demonstrates a suitable approach to determine data saturation. However, it is time consuming and may not be feasible since it may waste resources needlessly. Furthermore, the paper does not make it clear what the optimal

number of initial samples was, and what could actually occur if they rearranged the interview sequence before checking for saturation (Constantinou et al., 2017). Furthermore, according to Francis et al. (2010), suggested that ten interviews are a reasonable foundation point, after which three more interviews can be added without any new topics. Consequently, based on all the authors' techniques, data saturation in this research study was effectively attained. Besides that, reaching saturation was not the only reliance for assuring quality, but also on meeting the quality indicators listed below.

3.17 Quality markers

Positivists express doubts concerning the trustworthiness of qualitative studies since qualitative research is not able to address its reliability and validity, as in naturalistic studies (Shenton, 2004). Nonetheless, in the 1980s, Guba (1981) argued that the criteria for studies being trustworthy credibility, transferability, dependability, and confirmability. However, this has been a source of contention, with plenty of academics and experts expressing their dissatisfaction (Shenton, 2004). According to Berger (2013), reflexivity, for instance, is another criterion that is influenced by whether the investigators are a part of the group that is examined and hence shares the experiences of the participants. Apart from data and meaning saturation as a quality marker for this study, the following criteria have been used in order to ensure quality, as per the guidelines by Lincoln and Guba (1985).

3.17.1 Credibility

Credibility qualitative research is a comparable term to internal validity, which positivist experts suggest is crucial in quantitative research. (Shenton, 2004). The belief that the study's findings are correct is referred to as credibility according to plenty of authors such as Holloway and Wheeler (2002) and Anney (2014). Moreover, it is quite critical for an investigator to guarantee that their study is trustworthy since this will be able to establish credibility. This particular criterion implies that the actual data obtained from the interviews with participants was appropriately evaluated, thus, the findings in the study would give realistic and reasonable information (Lincoln & Guba, 1985). According to Amankwaa (2016), in order to establish this criterion, an investigator must be involved and continually observe, do peers debriefing and have a sufficient referential and member checking, all of which are also utilised in this conducted study to establish credibility.

Peer debriefing is a method of achieving credibility in this conducted research study. In this approach, investigators seek to find other experts to offer the inquiries with the possibility of examining their comprehensions and enable other participants to pose intrusive questions to the investigator (Guba, 1981). To rephrase, qualitative research seeks intellectual assistance from other professionals, such as academic personnel (Anney, 2014). This might be attributed to the assistance of the investigator's academic supervisors, who continuously monitored and guided the study.

Furthermore, a key method for establishing credibility was to permit member-checking, which is accomplished by checking the data its interpretations that were obtained from the participants at a constant rate (Lincoln & Guba, 1985). Its purpose is to ensure that the interviewees' statements accurately reflect on what they wished to imply (Shenton,

2004). This may be achieved through a variety of methods, but the present research has accomplished credibility by providing the participants' precise words in Chapter 4: Data Analysis. On top of that, the respondents will be able to evaluate the interpretations of the researcher.

3.17.2 Transferability

According to Lincoln and Guba (1985) the term for describing the ability to transfer the findings to various contexts or people in qualitative research is transferability, which is the equivalent for generalizability in quantitative inquiry. On the other hand, transferability differs from other perspectives of research due to the reader's decision on how relevant the results are to their own context in order for them to be utilized in other scenarios or by other individuals (Polit & Beck, 2014). This necessitates a wealth of information about every perspective of the study (Amankwaa, 2016), such as the range of organizations entangled, the number of participants involved and the criteria for selecting them. Besides these, data gathering procedures, number and duration of each data collection, and a precise description of the answers, which were then coded and analysed are required (Shenton, 2004). The transferability element of trustworthiness was achieved in this study due to information being extensively provided elsewhere in this study. Information such as the healthcare situation in Cyprus, participants profiles, details concerning methodology, and the reasoning for this research.

3.17.3 Dependability

According to Anney (2014), the consistency of findings across time is referred to as dependability. Both sustaining an audit trail of process logs and peer-debriefings with

a peer are ways of guaranteeing a research's dependability (Connelly, 2016). The investigator must describe the specifics of the study's techniques so that a future study can replicate the project, even though the findings might not necessarily conclude to be the same (Shenton, 2004). Henceforth, the establishment of dependability in the conducted study was achieved by documenting the process of planning and implementing the sampling and its size, the criteria for selecting participants, as well as specifics about gathering data. On top of that, coding, analysing and how the researcher achieved saturation. Further to that, an external academic who is not associated with the present study contributes at numerous phases of the investigation, such as when composing the literature review and data analysis, to guarantee that the same results were retrieved and interpreted in the same manner.

3.17.4 Confirmability

Confirmability is the method of ensuring that the data generated from the participants' point of view and not from the preconception, interests, or opinion of the researcher (Lincoln & Guba, 1985). According to Tobin and Begley (2004) and Anney (2014), confirmability refers to the confirmation that obtaining and interpreting the data are not the result of the investigator's mind instead are certainly derived from the participants. Moreover, auditing is utilised to examine the confirmability of results in order to assure confirmability. In addition, by generating a comprehensive report that contains all the results, confirmability will be simpler to assess. Auditing the data to assess the consistency of the findings resulted in achieving confirmability in this research. More specifically, an external reviewer thoroughly examined and coded the transcriptions to

ensure confirmability. Finally, both researcher and external academic, discussed and decided which are the final codes.

3.17.5 Reflexivity

The process in which an investigator engages in a continuous internal conversation and critical evaluation of his or her positionality as well as a personal admission and consciousness that this position may obstruct the study is defined as reflexivity (Guillemin & Gillam, 2004; Stronach et al., 2007). According to Palaganas et al. (2017), during a study, the positionality that is grounded on gender, race, ethnicity etc., and the individuals who are influenced by the socio-economic and political environment have a decisive influence.

I will explain here how my prior professional experience and motivations might have affected my decisions regarding how I conceptualized, designed, and accomplished my study.

I graduated from the Nursing School in Athens in June 1986. After that, I worked as a staff nurse in the surgical ward of a public hospital. Upon finishing my two-year compulsory service in the Greek army, I decided to go the UK to extend my studies and specifically to complete a specialty course in nephrology nursing. First, I worked in the haemodialysis unit of St. Bartholomew's Hospital in London, and after a year of experience there, I attended the nephrology nursing course at St. Bartholomew's School of Nursing. I remained in London, working as a renal nurse in a haemodialysis unit and also completed my MSc in Nursing at City University of London.

Then, I moved to Cyprus to start working as a renal nurse at Larnaca General Hospital in the haemodialysis unit. During that time, I founded the peritoneal dialysis unit with 14 patients and personally trained a nursing team of five colleagues. Furthermore, I

carried out certain types of research that resulted in the creation of important clinical nursing practice guidelines for CKD care. In 2007, I started working as an associate lecturer in the nursing programme of the University of Nicosia. In 2012, I acquired a Postgraduate Certificate in Learning and Teaching in Higher Education from the University of Hertfordshire. Since 2014, I have been a full member of the Cyprus Nephrology Nursing Sector.

Throughout the whole study, I kept a reflective diary, wherein I recorded my own thoughts, feelings, and experiences, and acknowledged them in the data analysis and interpretation processes. The reflective diary provided an audit trail of the research design, increasing the transparency of the research process. Smith (1999) highlighted that written reflections of one's own feelings contributes to the trustworthiness of the findings by supporting the researcher's subjectivity.

The fact that I had been away from the clinical field for the last 14 years while I was working in a university essentially helped me to focus my attention on every step of my research. It was indeed incredibly beneficial while coding and analyzing data. As the researcher, I focused on the real experiences of the participants, attempting to understand and reveal the essential meanings for them through truthful and authentic descriptions. During the interviews, I remained mindful not to capitalize on the relationship between my position of authority, as an academic staff member or researcher, and clinical nurses, some of whom were former colleagues. I emphasized at the beginning of each interview that I only wanted to know how the participants experience and perceive their role in CDK care and under no circumstances to judge their opinions, actions, or knowledge.

Taking into consideration that my own experiences could affect the data analysis, a second researcher participated to confirm the coding and interpretations against the data to increase the reliability of findings.

3.18 Conclusion

The IPA method is a fairly recent qualitative approach that has seen extensive usage in the nursing department. This chapter has gone into an in-depth explanation on why the topic under research is suitable to this methodology. To continue with, IPA, from an ontological standpoint, focuses on subjective reality as perceived through the participant's perspective. Furthermore, IPA's underpinnings are dependent on how individuals make meaning of their reality of experience. Not only this project intends to investigate the reality of nurses caring for people with nephrological issues, but also how do they perceive their numerous practice roles including patient education. The methodology contributes to understanding how the participants and researcher make sense of their personal experiences.

An outline of all the approaches and processes implemented for achieving the aims and objectives of this research occurred, encompassing those pertaining to ethical clearance, participants access, and sample size. On top of that, the method of gathering the data and its analysis were also systematically illuminated in this chapter. Semi-structured interviews to individuals were utilised to collect the data, which is considered a common technique in qualitative research procedures such as IPA.

The gathered data was monitored manually, and the mechanism for determining data saturation was extensively addressed. Credibility, transferability, dependability, confirmability, and reflexivity were presented in this chapter as quality markers of the

research study. All in all, IPA is the most suitable methodological approach for the topic under research, and the study design which was proportionally grounded on it.

CHAPTER 4: DATA ANALYSIS

2.0 Introduction

This chapter presents the findings from the 16 interviews with nurses working in nephrology care settings. The interviews were carried out in the five district hospitals of Cyprus as follows: three participants from Hospital 1, four from Hospital 2, one from Hospital 3, five from Hospital 4, and three from Hospital 5. Haemodialysis is provided at all the hospitals: four also provide peritoneal dialysis; three have a nephrology ward where they admit nephrology patients; and only one hospital carries out kidney transplants and accepts patients with autoimmune diseases. In terms of the gender composition of the group, four of the participant nurses were male and 12 were female. Additionally, their ages ranged from 25 to 55 years, their work experience as a registered nurse ranged from 1 to 31 years, and their work experience as a nephrology nurse ranged from 1 to 29 years (see Table 5).

The interviews were detailed discussions in which six categories emerged for data analysis: covered several themes with the participants. In particular, the themes that were uncovered are: (1) nurses' roles in chronic kidney disease (CKD) care; (2) nurses' preparation to care for CKD patients; (3) organisation issues affecting nurses' efficiency; (4) barriers that prevent them from educating CKD patients; (5) difficult patients; and (6) nurses' defensive techniques to prevent emotional stress admitted. What follows is a detailed analysis of these categories that emerged from the interviews.

2.1 Nurses' roles in CKD care

The following section provides a detailed discussion on participant nurses' roles in carrying out their duties and how they perceive these roles. From the coding and analysis of nurses' experiences, five themes were derived. They are (1) operators of dialysis machines, (2) holistic care providers, (3) unit bureaucrats, (4) patient educators, and (5) emotional supporters. Although there are similarities in the nurses' roles among the participant groups, one may identify variations in the way nurses view and experience these roles.

2.1.1 Operators of dialysis machines

One of the most frequently reported roles that participants described was the role of operating the dialysis machines. Less experienced nurses reported that their major duty was to operate the dialysis machines, whereas more experienced nurses expanded this role by providing evidence of more safe care during the dialysis sessions. More specifically, participants described how they connect and disconnect patients to the machines and supervise them during their dialysis session to avoid or respond immediately to any complications. Nurses reported an awareness of the risks to patient safety and emphasised the intension of dialysis session time. Following are some interview excerpts where nurses expressed this role:

> *"That is to say that we put them on the machine to do their four hours and they will leave and go home.... They [head nurses] should have told us two or three things when we first came... not only about the machine and how it works." (01-M-PA-25)*

Table 5: Demographic data of participants

Interviewer code	Sex	Age	Years of nursing experience /CKD experience	Hospital	Hospital CKD Services
01-M-PA-25	Male	25	1/1	3	Haemodialysis
02-M-AM-30	Male	31	8/6	5	Haemodialysis
03-F-LA-35	Female	32	10/3	2	Haemodialysis/ Peritoneal/Nephrology Ward
04-F-LI-27	Female	27	6/5	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
05-F-LI-45	Female	45	14/5	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
06-M-LA-41	Male	41	17/1	2	Haemodialysis/ Peritoneal/Nephrology Ward
07-F-NI-33	Female	33	12/12	1	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward/Transplantation Unit/Autoimmune diseases

08-F-NI-33	Female	33	12/12	1	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward/Transplantation Unit/Autoimmune diseases
09-F-AM-34	Female	34	12/9	5	Haemodialysis
10-M-LI-35	Male	35	16/8	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
11-F-NI-45	Female	45	21/15	1	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward/Transplantation Unit/Autoimmune diseases
12-F-LI-34	Female	34	15/5	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
13-F-LI-55	Female	55	29/2	4	Haemodialysis/ Peritoneal Dialysis/ Nephrology Ward
14-F-LA-36	Female	36	16/10	2	Haemodialysis/ Peritoneal/Nephrology Ward
15-F-LA-47	Female	47	25/25	2	Haemodialysis/ Peritoneal/Nephrology Ward
16-F-AM-52	Female	52	31/29	5	Haemodialysis

"First, I will speak about the smooth integration of the patient in the process of haemodialysis….. It is the safe connection and disconnection of the patient from the haemodialysis and his safety during haemodialysis." (04-F-LI-27)

"In the morning, the patients are connected to the machines. When they are connected and we are certain, the machines start, and if everything is ok, we do the rest concerning haemodialysis." (14-F-LA-36)

Experienced participant, 11-F-NI-45, who has mainly an administrative position, emphasised the role of nurses as operators of dialysis machines by referring only to dialysis sessions:

"They [patients] should be disconnected from the machine and the others, who are already there, to be connected and this continues constantly. They are coming and going constantly."

Additionally, when a participant asked to be moved from the oncology ward to another one due to her pregnancy, the head nurse proposed the haemodialysis unit and mentioned only about the dialysis machines:

"I don't know now. If you don't feel good with your pregnancy, see what you will do. What to do Zina, to transfer you into the renal unit…to learn the machines?" (12-F-LI-34)

Furthermore, an administrative nurse (13-F-LI-55), who has very long experience as a nurse but has only worked for two years in haemodialysis, emphasised her ability to operate the dialysis machine:

"First, apart from needing to know how the machines work and what patients need, we need to get to know personally to be able to manage the staff."

The above data that comes mainly from nurses with less experience in CKD care highlights the importance of operating the haemodialysis machines. This could indicate that less experienced nurses provide a limited range of nursing practice in haemodialysis units and work in a task-oriented and mechanistic way, focusing on conducting certain nursing tasks. The next excerpts confirm the above and mention other routine tasks that need to be performed. They emphasise that ensuring patient safety during the dialysis session is an important feature of their tasks.

"There is when we really don't have anything in haemodialysis. In haemodialysis, I will evaluate the weight of the patient, his clinical picture, personal history." (03-F-LA-35)

"Everyone works about the same in the department...They will do the same job. They will put the patients on the machines, they will take the patients off the machines, and they will...the blood pressure is taken every half an hour." (06-M-LA-41)

"Every hour you check haemodynamics. Pressure, pulse, you will see the machine; you will check your venous and arterial lines, if there is any problem. This is the supervision basically." (10-M-LI-35)

"Basically, the night shift has about 14 patients and there are only four scheduled for later and they put them in morning shift. Others will measure vital signs of patients; others can see them and then they start according to patient's needs." (11-F-NI-45)

Also, very experienced nurses with more than 25 years in haemodialysis confirmed the above, referring to certain tasks that were related to the dialysis session:

“Listen, as soon as the patients are connected to the machine, you start checking them one by one. You check if there are any mistakes, their weight, the machines, the speed, everything. As we said, you ask if the patients have any problems, so that when the doctor makes rounds, you can tell them that this patient has that problem. You ask the patients in advance so that you know.” (15-F-LA-47)

“Nursing duties, just like the other nurses. I connect and disconnect the patients to and from the machine, I check their vital signs, I supervise, because the unit needs to be observed closely throughout the shifts, as anything might happen, from severe hypotension cases to bleeding – anything.” (16-F-AM-52)

However, the operation of the machines, as a major nursing role, and the mechanistic way nurses work in haemodialysis units were also confirmed by participants who have more than ten years of experience there.

"Well look, here our job doesn’t actually involve many things. Some people might, this is it, what I’m trying to tell you, it is part of the procedure on the one hand, but some people don’t realize it. I mean, you come in the morning, ok, you prepare the machine, and put the patient on..." (09-F-AM-34)

“Yes, let's take a morning shift, once the nursing report finishes, we enter to put patients on machines. Okay, it is an intensive time, that happens just you get in for four hours the time you will put on and take out.” (10-M-LI-35)

Noteworthy is the answer by participant 11-F-NI-45, who, in answering a question on how to improve the level of care nurses provided, referred only to the need of increased number of hemodialysis machines and hemodialysis sessions:

“Having more machines will improve the situation. We will be able to serve patients, and they will not have to come in for their treatment late evenings and during inhumane shifts.”

Another participant with ten years of experience in the haemodialysis unit (14-F-LA-36) interestingly expressed her readiness to attend a course in nephrology care to increase her knowledge merely on the haemodialysis machines and their various programs.

"…more knowledge, more knowledge about the machine. There are things on the machine I don't know.…There are many things on the machine you must know.…How you can play with the sodium, the profile, basic things we can do ourselves. There are many things we can't do if we don't have instructions.…There are other programs which we don't use here.…The machine provides them. We don't use them."

As it can be seen from this excerpt, both less experienced and more experienced nurses perceive their work in a mechanistic and task-oriented way. It can be inferred that this may be due to the routinisation of the work setting. It is noteworthy to mention that the experienced nurse works in a very small satellite haemodialysis unit with only five machines, which provides treatment only in the morning shift, and all the patients are in very good condition.

2.1.2 Holistic carers of patients

Concerns could be raised as to whether CKD patients receive individualised and holistic care. The nurses with more experience expand the range of nursing activities during the dialysis sessions by focusing on the holistic needs of patients. For instance, participant 05-F-LI-45 described her role in the CKD field and specifically in haemodialysis as follows:

"First of all, to recognise the needs of a patient…indicating the patient-centered nursing approach….basically, the role should be multifaceted, so you can recognise all needs…so the care is complete... of a patient,…because it is certainly important...if he is dehydrated, if he is overloaded….To handle any problems that arise during the treatment...as also the psychological factor, depression, you must be alerted to recognise if someone is anxious, depressed."

It is obvious that this participant, with more experience, goes further than just putting the patient on the dialysis machine. She identified the importance of satisfying the multidimensional needs of the CKD patients by providing holistic care. Also, participants with more than 12 years of experience said:

"Our role is…. the care of our patient, the prevention, and the restoration of health.... Apart from taking care of the patient, you will have to…teach the patients some things…." (08-F-NI-33)

> *"The nurse's role is multifaceted in haemodialysis, as it is in other sections too. You are an educator, advocate, caregiver, and psychologist many times.…" (12-F-LI-34)*

This indicates that nurses with more experience offer a more holistic approach to care in comparison with less experienced nurses, revealing that experience in the CKD care area helps nurses to see further and focus on improving the patients' health rather than just on operating the machine. The difference in the perception of tasks might come from the fact that experienced nurses have the knowledge to understand the priorities and spectrum of nursing activities in relation to patients' needs.

2.1.3 Unit bureaucrats

It seems that nephrology nurses spend much time on duties other than direct patient care. Many participants referred to non-essential paperwork and clerical tasks during their daily practice, such as documenting non-nursing care, completing various test forms, and writing down numerous tests results in the patients' files. A very experienced participant clearly referred to the bureaucratic aspect of their shift time:

> *"There is various paperwork. We keep nephrology files, as you know, okay bureaucracy for me.... The doctor writes blood analysis and you have to write them in the file. Blood analysis might have 20 to 30 blood analyses of patients, and you must write them in files." (10-M-LI-35)*

Also, participant 14-F-LA-36, with ten years of experience in haemodialysis, mentioned the paperwork as a part of nurses' daily tasks:

> *"Routine, that is the paperwork, the health records, a lot of paper, big books. We prepare everything for the next patients; we prepare the records for the afternoon. It depends; for example, this afternoon we'll find the records for tomorrow morning so that everything is ready for the next shift to start."*

Additionally, participants who were less experienced in haemodialysis nursing confirmed the above:

“After we connect the patients (to machines) and see what they will take along the way, we record files.” (12-F-LI-34)

“Now they require nurses to check that the doctors complete the discharge papers, say, and the triple copy discharge form, and the nurses must check this thing.” (03-F-LA-35)

2.1.4 Educators for patients

When the participants of this study were asked to describe their role in CKD patient care, most of them referred to patient education. Education for CKD patients has been reported in the literature as an essential, well recognised aspect of care and significant in the quality of CKD patients. In this analysis, participants expressed different aspects regarding the provision of patient education, and this is most probably due to the setting in which they work but also due to the dissimilar lengths of experience. For example, participant 04-F-LI-27 acknowledged the importance of education for CKD patients and reported that good patient education will bring about positive outcomes for the patients and increase the possibility for a good quality of life:

“The nurse has the role of instructor, and if he knows how to educate, we have very good results regarding the patients. That is, if we know how to educate the patients, the patient may have a good quality of life, I think.” (04-F-LI-27)

It is evident from the above excerpt that this participant recognised that adequately performing patient education will result in a better outcome for CKD patients. However, even though most of the participants acknowledged the importance of patient education, they reported the lack of it. For example, when participants were asked to expand on this role, they confirmed the absence of patient education activities:

"We don’t usually tell them anything." (01-M-PA-25)

"Nothing, zero." (3-F-LA-35)

The confirmation of the absence of patient education in CKD care by these participants with less than three years of experience certainly involves risks for the patients who might have negative outcomes in their quality of life and in their disease progression.

However, even more experienced nurses reported that there is a lack of patient education. For example, participant 10-M-LI-35, with 16 years of experience, clarified:

> *"From what I know, not in eight years, so there is not something (patient education) hidden, and I do not know about." (10-M-LI-35)*

Similarly, nurse 07-F-NI-33, who has 12 years of experience, when asked if they provide patient education on CKD, said that there are times they do not provide any information to them:

> *"Yes, yes … There are patients who are admitted to the hospital and leave, and we may never even mention anything to them." (07-F-NI-33)*

This was also supported by participant 06-M-LA-41, who has 21 years of experience as a nurse but only one year in a CKD care setting:

> *"Nephropathy patients who are on the machines aren't educated in any special way. Whatever they know and whatever they ask, all their questions are answered by the nurses. There isn't any education. How can you educate someone who is going to be on the machine?" (06-M-LA-41)*

This nurse argued that there is no actual patient education, and from one point of view it could be said that this nurse does not want to disturb patients on the machine. However, it is apparent that this participant believed that CKD patients on dialysis do not need any education and, if they have any questions, they get the answers from nurses.

On the other hand, nurses who had longer experience in CKD care referred to their role as educators and to a variety of subjects they teach CKD patients, such as diet, medications, prevention of infection of the central vein catheter, caring for their fistulas, protection of the peritoneal catheter, and the importance of exercise. For example, when participant 09-F-AM-33, who has nine years of experience, was asked about nurses' role in education, she focused on diet and protection of fistula:

> *"Well, as soon as the patients come in, we explain to them about their diet, so that they can be careful and watch what to eat and what not to eat. I mean about fruit, the way they cook their foods…how much they drink, water. As far as a fistula is concerned, they need to be careful, for example…you shouldn't lift weight." (09-F-AM-33)*

Interestingly, participant 10-M-LI-35 focused on certain problems identified, such as electrolyte disturbances:

> *"Yes....If I see something that I don't like, I will definitely go and talk to him. Or, let's say I see a patient who constantly has a potassium level seven, I will tell him two or three things on how to look after his diet, about the risks and the symptoms this can cause him when he is at home and might not realize it. When he starts feeling weakness in his legs and so on." (10-M-LI-35)*

The above participants referred to important subjects of CKD patient education, proving that more experienced nurses provide some education activities. When participant 10-M-LI-35 was asked who taught the patients, he answered that nurses in charge did:

> *"Eh, those in charge shall I say? Usually, when someone comes into the unit the nurse in charge takes control." (10-M-LI-35)*

Furthermore, participant 07-F-NI-33, with 12 years of experience who works in the only department in Cyprus that conducts transplants and provides care to patients with kidney transplants, emphasised educating those patients rather than CKD patients.

> *"Err, it is our role to tell them about the good and the bad aspects of medication, as far as we know, as long as we have patients to deal with. And because we are in the nephrology department, and the first thing that we do is give our patients instructions on how to look after their kidneys [transplants], the first thing is water, plenty of water."*
>
> *"We will teach the average kidney patient about their medication, and also transplant patient. But with the transplant patients, we have a different role to play.… We have a larger role to play as far as medication is concerned, because we are one to one." (07-F-NI-33)*

It is apparent from the above that the participant recognises the importance of patient education, although she referred to only certain subjects to educate patients who are on dialysis, whereas she emphasised educating transplant patients.

Participant 08-F-NI-33, with 12 years of experience who also works in the same unit as the previous participant, referred to educating patients who are on dialysis

machines, and she mentioned medication, diet, and preventing infection of the exit site of the dialysis catheters.

> *The medication, the diet.... We need to tell them, because these patients will definitely have an access point, errm…they have the cath, the main catheters. We definitely need to inform them that they need to take care of the catheter exit site in order to avoid infection.*

It can be seen from the above that participants reported several important educational topics for CKD patients, but, even with their long experience, their responses were inconsistent in what they taught depending on which hospital they work at. The important role of experience is supported by Fitzpatrick and Hyde (2005), whose study focused on nurses' knowledge of patient education and found that even experienced nurses lacked uniformity regarding the choice of teaching content. This remarkable discrepancy between nurses' role in patient education in the field of CKD care indicates the uncertainty about their role in patient education and the extension of the implementation of this role. It is really worrying that some participants reported that there is no education in their wards, and it highlights the differences in care provided in the CKD care settings across Cyprus.

Another important identification was that some of the participants disregard their role as educators and they referred to their role as providing information to patients or giving instructions or guidance on how to control their disease. For instance, participant 07-F-NI-33 described one of her roles:

> *"And because we are in the nephrology department, and the first thing that we do is give our patients instructions on how to look after their kidneys, the first thing is water, plenty of water," (07-F-NI-33)*

In addition to that, nurse 02-M-AM-30 said:

> *"I could say guidelines, which should be followed by experience and knowledge."*
>
> *"They ask all the time; they are informed and if they have questions, we give them solutions. Altogether we each do our part." (02-M-AM-30)*

The above participants saw themselves as instructors who provide certain information to help patients to address specific problems and not to alter health behaviours. Also, this may point to nurses' ignorance of the meaning and value of patient education.

Participant 06-M-LA-41 agreed:

> *"You need to sit down and advise the patient; you need to sit down and speak to them. To the patient themselves"*
>
> *"Educating, we…we could have with the peritoneal patients. What kind of educating? Am I to educate them not to drink fluids? Or am I to educate them not to eat fruit? In effect, this is teaching in this case. Not education." (06-M-LA-41)*

This participant is clearly referring to his role as teacher but not to the role as educator. This raises the question of whether nurses know or perceive the importance of patient education. However, as has been mentioned above, it is acknowledged that these nurses lack continuing professional education on CKD care, which could enrich their understanding and knowledge about CKD patient education.

2.1.5 Emotional supporters

The participants of the current analysis expressed the important role they have in emotionally supporting their CKD patients. For example, when participant 02-M-AM-30 was asked to describe some more of his work roles he stated:

> *"The role of psychology; I believe more in the psychological domain, I may say, because it helps these patients more."*

This participant referred to the psychological effect of CKD and the important role of nurses in psychologically supporting these patients. Participants 16-F-AM-52 and 08-F-NI-33 also agreed with that opinion, and they stated respectively:

> *"And I believe that the psychological support we give is extremely important." (16-F-AM-52)*
>
> *"You need to explain to them and support them psychologically if they go on the machine. Meaning, if they get to love this thing, the machine, they will be able to come in for their treatment without being in a depression. Because there are many people who are affected in the beginning…. They may not accept it… but when you explain that they will be coming for 2 to 3 times a week for 4 hours and do everything right with their diet, it can become a way of life and… they can deal with it better, also with the hope that they will be able to have a transplant. And their quality of life is also better." (08-F-NI-33)*

In the latter response, the nurse emphasised the important process of patients adapting to the requirements of dialysis therapy and the dietary restrictions. Interestingly, she acknowledged the risk of depression at the beginning of the adaptation process and how important her role is in supporting these patients psychologically. Also, the following excerpts by participants 05-F-LI-45 and 10-M-LI-35 highlight respectively the importance of their role in identifying any psychological issues of their patients.

> *"Also, the psychological factor…depression. You must be alert to recognise if someone is anxious, depressed."*
>
> *"You're dealing with people who have problems, and you need to help them. You have to move through this psychology."*

Those comments indicate that these nurses are aware of the great risks of CKD patients to suffer from depression, and that they acknowledge the great role they have in recognising such signs. This is further supported by other participants:

> *''If you see that a patient is negative to certain things, you try to change their mood. You try to talk to them about something that pleases them.'' (09-F-AM-34)*
>
> *"You approach the patient, so they feel like home. The psychologist usually does not solve the problems. How will you approach them, give them the support they need for their problem, to support them in their effort–everyday effort, in diet, water restrictions, daily changes in their role in the family, where patients say that is not the same, they feel they're different people. 'I am finished', they say." (12-F-LI-34)*

Participant 12-F-LI-34 additionally identified the risk of the psychological effects of the disease, and she understood her role was to support these patients by being nice to them so they would be in a pleasant mood. Nurses also stressed their important role in supporting newly diagnosed patients who are often in shock when they learn they have CKD. More specifically 08-F-NI-33 stated that:

> *"Errm…basically…errm…, it might come as a shock to them. It is an area which they might not know a lot about. So, you will need to tell them certain things.... You need to explain to them and support them psychologically….They will be able to come in for their treatment without being in a depression."*

Participant 08-F-NI-33 also referred to the risk of depression especially for the newly diagnose patients who need to accept and adjust to a new lifestyle. Additionally, the participant, responding to a question related to newly diagnosed patients, simply confirmed that they offer psychological support but without elaborating:

> *"Yes, we are trying to talk to them…" (08-F-NI-33)*

Furthermore, some participants mentioned the closer relationships they developed with their patients who have a chronic disease and who regularly visit the hospital. For instance, 07-F-NI-33 stated:

> *"…and psychological support of the individual of course…. It has happened many times, errm, ok, because they are chronic patients, when they are chronic, another…another relationship is developed."*

This participant referred to the different relationship that renal nurses and patients develop because of the chronicity of the disease and the lengthy and regular contact they have. This is also confirmed by the very experienced 13-F-LI-55 participant:

> *"…and because I talk with the patients and we bond with each other, it gives them psychological support."*

It is very interesting that the nurse with ten years of experience in CKD care highlighted the importance of a human approach by comparing the patients with her father:

> *"They usually want love. They want someone to take their hand, stroke it, talk to them gently, and be nice to them. I can see that from my father. When someone is nice to him, it's different." (14-F-LA-36)*

However, it is worth noting that participants with less experience did not refer to this role. It could be said that this is because inexperienced nurses in the nephrology area might give more attention to learning and acquiring other more practical skills, and they ignore this role or feel insecure about assuming it. Another reason for this it might be the lack of preparedness to confront emotional challenges.

2.2 Nurse preparation

Despite the various roles participants reported having, the vast majority felt unprepared to undertake such roles when providing CKD care. Unfortunately, in Cyprus the only preparation that nurses have for renal nursing is during their undergraduate studies. Therefore, the knowledge they acquire depends on the curriculum of whichever university they attend, which specifies how many hours student nurses need and how in-depth they go to learn renal nursing. It would be good in a future stage of this research to explore what the curriculums of nursing at universities in Cyprus include regarding renal nursing. Also, through the interviews, it was identified that only in the last few years have some hospitals started to assign nurses as mentors for the newcomers to the ward/unit. However, only two of the participants referred to this new initiative, and remarkably they were themselves mentors. Additionally, it is important to report that when nurses are employed in the public sector of Cyprus, they are allocated to the various wards according to hospital needs regardless of the nurses' preferences and the preparation they may have had.

One of the findings is that most of the participants highlighted the lack of preparation they had to care for CKD patients, especially when they first started working in the CKD care setting. The following participant, who had only one year of experience, expressed his feeling of unpreparedness as a newcomer in the haemodialysis unit.

> *"I think the head nurse here should have trained me.... They should have told us two or three things when we first came...not only about the machine and how it works." (01-M-PA-25)*

He felt that he had not been trained for the work he was doing and that the only training he received was on dialysis machines. Presumably, any additional knowledge and skills are acquired through time and experience.

Participant 03-F-LA-35 who had three years of experience in haemodialysis stated:

> *"No, I do not feel ready; do not feel ready.... Only yesterday, I heard what the symptoms are of bad haemodialysis, and that our patients have started this thing. And I couldn't realize this all this time, that is in three years, I mean...I heard this yesterday. Our patients don't go through good haemodialysis because they have this, that or the other."*

and

> *"Because many times I find myself unprepared, many times...with their fluids, say, what foods should be.... Let's just say at the beginning when I came and [they] told me how to heparinize, how to tie it up. I had many questions."*

Also, experienced participants observed:

> *"No, they just said that they had positions in haemodialysis. I knew nothing about haemodialysis, [and] I went, and I just saw machines.…It was basically all machines. I thought I would have difficulties to learn how to use them, but okay." (11-F-NI-45)*

> *"I do not think they are prepared. I do not think they are prepared about what they will face here…." (16-F-AM-52)*

It is remarkably interesting what nurse 10-M-LI-35 expressed when asked about his preparation to work in a haemodialysis unit:

> *"The first week when I was at home, I heard the "tou-tou [beeping]" of the machine. I was listening to "tou-tou" and I was wondering what is happening now? Until you learn it you do not feel comfortable with the space until you learn to assemble the machine. As new, ok you go with someone, some people. You can go with them for some time to learn, to train in. Let's say you're there six/seven mornings this week, you will go with this person out of the staff members to teach you the first week how to assemble the machine and slowly you can enter..."*

He undoubtedly highlighted the psychological intensity of the first days working in the haemodialysis unit, referring to the illusion that he was hearing the sounds of the machines when he was at home.

A participant revealed that newcomers in the haemodialysis unit had no support or any type of training from their colleagues, especially the older ones:

> *"Occasionally…by colleagues if I was asking. The workload was great, and they preferred to keep me in the corner…. I felt very disadvantaged when I was placed initially in this unit. I felt that I had no support from colleagues, and I felt like I just came from the nursing school…. Okay it slowly passed when the older colleagues left…. But for a long time it was like this." (12-F-LI-34)*

However, participant 14-F-LA-36, who worked at a different hospital, disagreed with the above and expressed she had a lot of support from her colleagues. However, learning and developing knowledge was greatly based on her own efforts:

> *"…no education: support yes. I was well received; I cannot complain. They helped by educating me, but I also had personal interest. I wanted to learn. If I hadn't wanted to, I wouldn't ask. I wanted to learn because I went to a completely strange place when I was a student for two months. I had never used machines or nephrology or anything like that before. I said I must learn. If I don't learn so I can see if I like it or not it means….I had no other choice."*

The lack of preparation was clearly supported by an experienced nurse administrator who had been working for only two years in haemodialysis. She stated that nurses need more than two years of experience to meet the requirements and demands of haemodialysis patient care:

> *"They will not perform in all things. They (nurses) need two years' experience to be able to stand and feel confident. And yet they will not." (13-F-LI-55)*

The same participant described training sessions provided by medical staff and experienced nurses on nursing topics such as puncturing the fistula, machine issues, and peritoneal dialysis. However, she stressed the difficulties there were to organize the training sessions:

> *"Now we are trying to organize training for some of our staff. They can, for half an hour each time, to learn about nephrology….I discussed with the older nurses and decided nurses of next shift to come earlier and attend some sessions about nephrology or pathology etc., when all patients are on the machines, and everything is fixed.…We have managed this with great difficulties." (13-F-LI-55)*

Another nurse administrator, who had worked for 25 years in haemodialysis, clarified the need for preparation. She confirmed that some ad hoc teaching was provided. Nevertheless, at the same time, the participant referred to the limited time available for these teaching opportunities:

> *"Ok you need preparation [good preparation]. They need some months to really adapt to the work in haemodialysis. In the beginning, you talk to them about haemodialysis, what it is, how the machines work, what an artificial kidney is. You explain some*

things, because there is not much time, some things so they can…the only thing they know is that the patient comes, I connect them to the machine, I start it, they stay there for some hours, that's it we're done." (15-F-LA-47)

Participant 08-F-NI-33 expressed her feelings of unpreparedness to work in a specialised department that also cares for patients who have undergone kidney transplants. Also, she emphasised the gap between theory and practice in relation to renal setting.

"I definitely did not feel prepared at all. We went to a large center which dealt with transplants."

"At the school we had definitely heard the word 'transplant', but we did not go into much detail with this subject, transplant. We needed to learn new things. What is transplantation, what do patients do after the transplant?"

Another nurse supplemented that comment and highlighted what was taught during her studies and compared this to the reality of a newly qualified nurse in clinical practice:

"I was not prepared at all.... I didn't, I didn't know how to deal with the patient. Although I went to a (nursing) school, yes, I did gain some basic knowledge to build on, but it's not the same as…having to deal with and being responsible for these (CKD) patients. Things are different in theory and different in practice." 07-F-NI-33

It is clear that, although this participant felt their undergraduate studies inadequately prepared them, she would have preferred to acquire at least the basic knowledge regarding transplants. This is further supported by the following participant:

"...We don't have training on this thing (CKD care). That is what did we have in college? Biology, anatomy, pathophysiology..." (03-F-LA-35)

This participant expressed her feelings of unpreparedness for CKD care because of limited related didactic elements during her undergraduate studies. This was also supported by the following participant who stated that even though she had been superficially taught about haemodialysis, she did not do any practical training in this specialised area:

"I mean about dialysis…. Yes, we did talk about it, we spoke about dialysis, but we didn't do….I personally didn't even go for certain days for some practical training to the dialysis department." (09-F-AM-33)

"No, I did not pass-through the haemodialysis department. I might go through the most amazing department, neurosurgical, where they are specialty departments, from haemodialysis never. We went to the nephrology department, but they didn't have haemodialysis. I did not have any relation with the department, neither when I went to nephrology did, they tell me to go to haemodialysis. There was no preparation I think not... (10-M-LI-35)

The results highlight the nurses' need and willingness to attend a specialty course in nephrology nursing:

"I think that is necessary to have a specialty programme in nephrology, which does not exist in Cyprus. In the past, I was searching about it abroad." (11-F-NI-45)

"…. Basically, I didn't do anything more, nothing is offered, we didn't look for anything more anyway. I didn't do anything extra like a course, something to follow is not provided, but now I would like something like that." (14-F-LA-36)

Furthermore, nurses tried to fill the preparation gap with their personal efforts to develop a knowledge base:

"But I had no preparation other than the preparation I had myself.…Therefore, I started reading about…through websites, through books…" (12-F-LI-34)

It is evident that undergraduate nursing education in Cyprus fails to prepare nurses to meet the specific needs of patients with kidney problems, which is something quite reasonable due to the generality of the education offered by undergraduate courses. However, it raises the question of how adequately the existing undergraduate curriculum in Cyprus prepares nurses to meet the needs of patients with chronic diseases in general. Issues such as prevention of disease, promotion of health and self-care management are vital for all patients with chronic disease, including those with kidney problems. However, it is reasonable that some nurses would not have CKD care experience, knowledge and specific skills due to the complexity of the renal care settings.

In conclusion, these statements also show that the nurses still felt unprepared despite having long experience in the same situations. Instead, they are still gaining basic

knowledge, which shows that not only were they unprepared by their undergraduate training for CKD care, but they lack minimal continuing education. Periodic professional development during work would essentially help them to achieve satisfactory performance in CKD care settings. Perhaps someone with a status of mentor would be helpful for new nurses in the nephrology area or a period of adjustment under supervision. This would result in a reduction of anxiety as most of the inexperienced nurses show their dissatisfaction with the feeling of unpreparedness.

4.3 Organisational issues

4.3.1 Rotation system

Most of the participants referred to the job rotation system implemented by the hospitals in Cyprus. It was apparent that the job rotation caused some participants to feel frustration, distress, and unconfident. They attributed these feelings to unsuccessful communication with nursing administration. For example:

> *"I worked for a year in paediatrics in Nicosia and two years in the military hospital." (02-M-AM-30)*
>
> *"…the paediatric, pathology, orthopaedic and maternity departments...outpatient clinic" (03-F-LA-35)*
>
> *"I worked in the casualty department in the beginning, and then I did 7 years in Kofinou (primary healthcare centre), 7–8 years. Then, I went to the Agios Georgios elderly home, then 2½ years at the Airport, 4 years … in the First Aid department… 4 years in the HIV/AIDS department, at the Gregorio clinic, and now 1 year at the … Nephrology."*
> *(06-M-LA-41)*
>
> *"…The first department I went to anyway was paediatrics; after that they took me for the…the government's home for the elderly. I went there for some time, then I went to the casualty department.…Well, after that, we came to the hospital, we were transferred, and we came to…here. Well ok, I spent about a week at the old one (the old general hospital), close to the casualty department, and then pathology.…I went to*

paediatrics…and then I came here…back to paediatrics.…I did the rounds." (09-F-AM-34)

Participant 12-F-LI-34 expressed her annoyance with job rotation, clarifying:

"I once mentioned to one of the head nurses coming from a different field that I had just started my practice in the public service. I said great, now I'm in the nephrology department, tomorrow oncology, then paediatrics. Don't you think this is something negative for the hospital? Nobody asked me if I wanted to go from paediatrics to renal, and if I like it then great, I might learn how to do the job fast and start learning too, but what if I don't like it?"

The perspective from 12-F-LI-34 was interesting because she claimed the rotation system was a form of bullying and punishing nurses who have strong views which may differ from the ones of the administration:

"I got an unfavourable transfer.…Also, when your views are not expected by some others, you can easily be transferred. I had no arguments with someone, but if you express your views and they are different from others', you may change ward."

and

"I had expressed many times in the neonatal unit that it would be good to apply certain interventions to help some children or to utilize specific equipment that I used to have in my unit. Obviously, some in the unit heard and liked my ideas, but some did not like them. Whereas in October I was doing the APLS, which the government paid for, in January I stepped in the unit one afternoon, and the head said: Do you know…(name) that you are transferring in another department? But I didn't....The head said, someone will move to renal, fine, Zina will move to the renal department."

Other participants argued that rotating to interrelated nursing settings boosts knowledge development and the acquisition of certain nursing skills in a specific care field:

"…Before I was appointed to the hospital, I went to the Paraskevaidio Transplant Centre.…Kidney transplants, also nephrectomies.…There was a dialysis department… and so I went to the General Hospital, to the dialysis unit for 1½ years. When the transplant centre opened in Nicosia, I was moved to the…nephrology transplant centre, and I have been there ever since." (07-F-NI-33)

Furthermore, another participant reported being rotated only in related workplaces. In her whole career, she worked only for a while in a transplant centre and then in CKD care settings:

> *"I had just finished the school….I had gone to the Paraskevaidio Transplant Centre, where I was hired and since then…I am with kidney patients." (08-F-NI-33)*

However, the opinion of participant 15-F-LA-47, who is an administrative nurse, supported that one of the advantages of a job rotation system is to prevent staff burnout:

> *"Ok, when you work there though, you understand if you can stay, because indeed sometimes it can be tiring to see the same patients for so many years."*

Certainly, a rotation system would benefit both nurses and organisations, but it should be available mainly for newly registered nurses and nurses with some experience who may want to develop further in different areas. Moreover, permanent positions must always be available for those who do not wish to move to different departments.

4.3.2 Administrators' non-responsiveness to nursing deficiencies

Participants expressed the lack of understanding by the whole organisation and nurse administrators in relation to various needs and difficulties the staff face. They discussed the shortage of nurses in haemodialysis units as well as the shortage of equipment and professional guidelines to meet the demand of the increased number of haemodialysis patients.

> *"No, I think not. I think that even if they wanted to, they are not able to understand, because most of the times they see just numbers, even if you are trying to explain to them that we need staff.…They don't understand. We do and we know because we are there living it." (11-F-NI-45)*

> *"I asked for the protocol but, until today there is no protocol.…I would like to have more support so that I could offer more support. I would start from the equipment…machines...technicians.…Just some reforms are required to gradually increase the number of the machines, because 4-5 years ago when I came to this unit there were 80 patients; now, there are 180. So, some reforms were needed. The staff,*

I must mention, is still the same number as it was when we had 80 patients....There is not enough staff, and I believe that the administration is not good enough." (12-F-LI-34)

Another participant who worked in a small haemodialysis unit commented on the inability of the management to understand the nurses' feelings of insecurity when there are no very experienced nurses for support because of the rotation system and the absence of doctor in the afternoons and on weekends.

"We have raised the issue, sent an official letter about being covered, that we are exposed if something happens, and nothing, no one. Last time we asked for a written statement about who is meant to cover us if the doctor is out." (09-F-AM-34)

4.3.3 Inconsistent expectations from CKD care nurses

The data revealed that nurse administrators who are at the level of nurse supervisors and nurses in charge have dissimilar criteria and expectations from nurses working in CKD care settings.

Participant 13-F-LI-55, who is a supervisor with very long experience but only two years in haemodialysis, was asked about the criteria for choosing the nurses to work in the haemodialysis unit. Surprisingly, she expected her staff to be willing to accept a schedule that was different from other wards or units, and to be quiet as well as energetic.

"First, in dialysis we have a different time schedule which is not accredited. So, a nurse, to come to the haemodialysis unit, should accept this schedule… I want the nurses who come not to make noise…. I want organised people…surely, I don't want sluggish people."

Moreover, the same participant expected only experienced nurses to deal with and manage issues related to dialysis and patient safety. On the other hand, she expected inexperienced nurses simply to keep the equipment and supplies of the unit organised.

"The nurse came in the morning, have they made their rounds? The patient came, had they have vomiting or had diarrhoea? Had they eaten or drunk a lot? Are they able to

evaluate anything that the patient mentions in order to act? I expect all these from the experienced nurses. I do not expect that from the inexperienced. From the middle group, I expect them to have the department organised with oxygen, the crash trolley to be ready."

Another nurse administrator with years of experience in CKD care would expect nurses to be understanding of their patients, and to always be polite, patient, and persistent.

"When they are patient and persistent…and polite, very polite…to understand the patients' problems. To be able to advise and not get angry with what they will hear and not think that that's the way the patient is and behaves." (16-F-AM-52)

One more expectation was that nurses should have broad experience in caring for patients with chronic health conditions.

"Usually, nurses who have worked in large departments are chosen, surgical department, orthopaedics, pathology – nurses who have learned the basics, and then you bring the nurse to specialisation. First, they gain general knowledge and then specialisation." (16-F-AM-52)

"They are supposed to know that they (patients) have been patients for years. Chronic, that is very important." (15-F-LA-47)

Interestingly, nurse supervisors and nurses in charge of the CKD care settings seem that they do not get involved in the process of selecting nurses to work in these settings. When participant 15-F-LA-47 was asked if she was able to choose nurses who will work in the haemodialysis unit or nephrology ward she clarified:

"Up to now, no I never have…"

4.3.4 Opportunities for continued professional development

It is well known that nephrology nurses, as healthcare professionals, need to always update their knowledge and skills, and continued professional development (CPD) is important in CKD settings. In contrast, the participants of this research highlighted the difficulty to attend a nephrology nursing conference or seminar, the unavailability of or

having no access to scientific journals at work, and the absence of a nephrology nursing course.

For example, a participant with three years of experience in a haemodialysis unit stressed that the nurse administrators had negative attitudes towards conferences and seminars and did not encourage nurses to take part and attend. Also, the participant strongly expressed her disappointment and annoyance by using idiomatic language.

> *"There is another problem in the unit, let's say, where the staff cannot go anywhere.… 'You will not go to the conference in Limassol'. You will pull your hair out, not one person attended the conference from the nephrology department, and the reason (of the administration) was not enough staff. I will go crazy!" (03-F-LA-35)*

One more participant from the same hospital also supported the limited number of nurses attending conferences.

> *"Unfortunately, not all of us can go. This year these five nurses go, the next year these five…" (14-F-LA-36)*

Another very experienced nurse in CKD care suggested that the nurse administrators should facilitate the attendance of conferences to enhance nephrology nurses' capability to educate their patients.

> *"Sending you to different conferences…this could help…" (08-F-NI-33)*

Even a nurse supervisor in haemodialysis said that nurses could attend conferences if they wanted but confirmed the difficulty of allowing nurses to attend conferences because of the heavy workload.

> *"I did not allow many nurses to attend. I wanted to let them attend but they realised themselves that they cannot go. Unfortunately, in the theatre it was very different. There were conferences only on Saturdays when only the team for urgent cases was on shift. There were many nurses attending. Here it is difficult." (13-F-LI-55)*

It is, however, worth mentioning that there was some doubt about the quality of the conferences, as they do not provide the expected learning outcomes.

> *"I think they are poor because they don't.... If they cannot produce an educational programme, say within a short period of time in two days, to remind us of the basics, to teach us the basics.... We could listen to what new research says." (04-F-LI-27)*

Besides encountering obstacles to attend conferences on nephrology nursing, CKD nurses did not have access to any scientific journal through their work organisation.

> *"I have not seen anything [scientific journal] related to nephrology nursing." (03-F-LA-35)*

Many participants, independent of the length of their experience, pointed out the importance of a special course in nephrology nursing and their willingness to attend it, if there was such a course.

> *"It is an area that needs specialisation. I would prefer to go through a course.…Without specialising, I do not think that you could succeed in such a field." (03-F-LA-35)*

> *"It would be good if we had specific training…a specialisation." 05-F-LI-45*

Despite participants' wish to take a course to specialise in CKD, the nursing administration does not seem to share the same perspective. Participant 12-F-LI-34 clarified:

> *"In our field, you get promoted based on years of experience and service in the department. At the hospital, qualifications do not matter; the only thing that matters is whether you have graduated from nursing school.…"*

The same participant revealed that when she expressed to her administrators the need for a specialisation course, they reacted negatively by criticizing her suggestions and giving no choice in a provocative and unprofessional manner.

> *"They didn't like it at all.…They even said what are these ideas you bring. That's what the hospital offers, either you like it or not…"*

The nephrology nurse administrators' attitude to the provision of a specialisation course was confirmed by an experienced participant who revealed there was no discussion about such a course although he would be ready to attend it:

> *"I mean, I know for example that for the intensive care unit they may send you on an intensive care course. I have never heard about the dialysis course.…I would like to do it, I like the…dialysis." (06-M-LA-41)*

It is clear from the above that CKD nurses are eager to improve and extend their knowledge and skills by attending more conferences, having access to scientific journals, and completing a specialisation course in nephrology nursing. Administrators

should perceive the willingness and needs of their staff and try to meet them by providing the related opportunities.

4.3.5 Nursing autonomy

Very few participants referred to having autonomy in working and delivering care to CKD patients.

A young nurse expressed his disappointment because of a lack of cooperation and support from older colleagues as well as restrictions from doctors that do not actually allow him to take any initiatives.

> *"What I wanted to say before is that there is no cooperation here. That is, if I take the initiative. Because, I have heard many times before "who are you", that this is something that prevents nurses from wanting to cooperate.…There are some here who think they have power. I apologise for speaking in such a way." (01-M-PA-25)*

Another participant with little experience in CKD care confirmed that doctors do not allow nurses to implement certain interventions, such as patient education.

> *"Yes, it's...let's say that thing…the doctors, doctors.... you stay out of it, just do your part, standard care.… We have reached a worsening situation, just a parenthesis, we have subclavian, right? And if one seam is cut, we must call the physician. Until recently the nurses also had to go. Now they have started (to say) if the wound is infected, you do not know how to sew, and the doctor must come." (03-F-LA-35)*

However, a nurse from a different hospital disagreed with the previous participant by saying that the interprofessional relationship between nurses and doctors has improved.

> *"Okay, the way doctors see us has changed, it is not as before. They see us as professionals, and we earned this." (05-F-LI-45)*

It is apparent that team spirit boosts nurses' feeling of autonomy when they are expecting support from and collaboration with coworkers and medical staff.

4.4 Barriers to patient education

As it has already been mentioned, patient education is a fundamental part of patient care, and it is one of the important roles of nurses. However, poor education is the most common source of patient complaints in the healthcare sector (Aghakhani et al., 2012). Since one of the findings of this analysis was the absence of patient education in some cases, participants were asked to report factors that prevent them from carrying out their role as patient educators. Most of them referred to inadequate guidance or support from administration, staff shortages, lack of available time, limited knowledge, and nurse–doctor boundaries.

4.4.1 Inadequate administration guidance

There was a conviction among most of the participants that they do not educate their patients due to the lack of guidance or support from nursing management. It was also expressed that the ward's head nurse, who is perceived as one of the most important persons of the administration, has the authority to support or guide them in educating patients. Importantly, this was the view of nurses working in different hospitals.

When participant nurse 03-F-LA-34 was asked if she felt that the administration provided any help and support to execute patient educational activities, she just replied:

"Nothing."

Certainly, her absolute and monolectic answer emphasises the lack of support from the administration. The following comment by participant 02-M-AM-30 charged the responsibility for implementing patient education activities to administration and stressed that the head nurse must give nurses permission to educate patients.

"The administration, let's say, or the head nurse will give us guidelines that we should educate."

This is further supported by participant 04-F-LI-27 who expressed that she expected that the administration would encourage and even demand patient education:

> *"To give incentives, let's say. To motivate us..."*
>
> *"If the heads of departments encourage you, if they tell you it is part of your job, if they keep an eye on you."*

The need for the administrators to incentivize nurses to educate patients was also confirmed by participant 10-M-LI-35, who has eight years of experience in a haemodialysis unit. Even when he was asked if he feels ready to carry out patient education, he pointed to the existence of a policy that would mandate patient educational activities.

> *"If the administration comes and tells me that they want teaching to be a part of our daily tasks, I will be planning, organizing, etc.… It is good to have the theoretical (basis), to have the knowledge; it's a very good thing. But, ok… it is a matter of policy of the unit."*

Additionally, participant 07-F-NI-33, who has many years of experiences in the field, also supported that there is no guidance from administration regarding patient education:

> *"Teaching? Do you mean about teaching the.…Let me tell you something, I think that…many times, they overlook it.... The same way that everyone else does. Because…they see all the other serious things that need doing on the ward, and they forget about the patients, what the patients themselves need to learn."*

That statement shows that the administration does not encourage or guide nursing staff to educate patients because they must carry out other tasks. That was previously observed that nurses focus on completing tasks instead of holistically caring for patients. Additionally, it was supported that the administration failed to plan well to incorporate patient education into daily nursing practice.

> *"There is no good programming in various fields to give the opportunity to the staff to implement their educational role as it should be. There is no administration to impose a*

programme that includes patient education so that patients would be informed." (12-F-LI-34)

It was additionally remarked that there is no written guide on various topics for patient education, either for nurses or for patients.

> *"… No, there is nothing written down. Not as far as I know…for fistulas for example, I don't think there are any instructions for the patient. We just have instructions on how to puncture the fistula. Not instructions, not a protocol. We don't have something for the patient. We do it personally." (14-F-LA-36)*

It is obvious that the lack of administrative support and guidance is an inhibiting factor for nurses to educate patients, and it can be strongly correlated with the absence of encouragement for nurses to perform educational activities.

4.4.2 Shortage of staff and lack of time

One of the most reported barriers to patient education was the shortage of staff and the consequent lack of time to complete all of the activities. This situation is further burdened by the various tasks and responsibilities nurses have, many of which do not even belong to nursing practice. The shortage of staff was highlighted by a well-versed nurse (10-M-LI-35) in the CKD care field who clarified:

> *"…We are dealing with stifling situations. We are in stifling situations…reduced numbers of nurses do more beds now…*
>
> *"We have no time.... Yes, this is the reason we have changed time schedules in haemodialysis unit…many patients. We work at different hours than any other departments of Cyprus....The issue is on the reduced number of nurses."*

Also, experienced participant 08-F-NI-33 referred clearly to the shortage of nursing staff in Cyprus and repeatedly suggested that more nurses need to be employed.

> *"There is no way that we have the time in a ward where there are 16 patients. The staff may be reduced daily due to sick leave, and due to the fact, that…they are not hiring people now..."*

"Hiring more staff would be a way, so that there is a better distribution of work, a different distribution of work, so that you can dedicate more time to the patient…."

The nurse administrator 13-F-LI-55 confirms the above, referring to her difficulties to deal with the continuous falling number of nurses.

"…We try to prepare them (nurses) not to take vacation during the summer if the situation continues like this. Of the 38 nurses, [some] will be on maternity and sick leave…and will return in six months.…They are not replaced, nor when they are on maternity. Last year I had three staff members on maternity leave…plus a sick leave due to a surgery….I had 34 nurses left. It was great pressure."

The problem of the limited number of nurses was also emphasised by another administrator, a senior nurse officer, who mentioned her regular involvement in the work-routine of her haemodialysis unit.

"In general, my job is more administrative, but the supervisor nurse working in haemodialysis is not only an administrator but has to work with the patients like the rest of the nurses. Because of the lack of staff, it is necessary to get in the department and work with everybody else. Maybe sometimes we work even more than others." (11-F-NI-45)

On top of that, the multitasking environment of the participants leads to time pressures that do not allow the implementation of certain nursing actions, including patient educational activities.

"We carry out hundreds of tasks that are not nursing, dealing with everything else apart from... How much paperwork ...We right in messages, about the patients, into the computer system, you brought such and such form, you didn't bring in such and such form. What...a hundred thousand things. (03-F-LA-35)

"The nephrology ward is a mixed ward where various things happen; you don't have the time to do so [patient education]. It would be very good if we were able to do it, like when we have a transplant patient."

and

"Lack of time…yes, workload. Many patients, many demands…and just so you know the chronic patients are much more demanding than the patients who will come in for a procedure and leave. They may ring the bell about 20 times each on every shift, and

quite often without a serious reason. But you must be there to respond. So, the things that you want to do, you can't always do." (07-F-NI-33)

"…There is a lot of work to be done, as I mentioned, we have dialysis, peritoneal patients, transplants. There are many things in the department. We don't have time left to deal with any patient one on one to teach them." (08-F-NI-33)

The lack of patient education is justified by participant 12-F-LI-34 who was asked if nurses achieve their roles including patient education, and she simply answered:

"Not really…due to heavy workload and lack of time.…"

Similarly, the experienced nurse 14-F-LA-36 explained the reasons for not educating patients:

"…It's the workload…and the lack of staff many times. There isn't enough staff. I mean, for each nurse there are four patients. We can't just start chatting…"

On the contrary, one participant who works in a small dialysis unit in a provincial hospital with only six dialysis machines claimed that nurses there have time to educate patients, as they have only a small number of dialysis patients. Specifically, this participant reported:

"The truth is that we do have some time. There are fewer patients in our unit." (02-M-AM-30)

Of course, this opinion is the exception, as this specific participant was working in a satellite haemodialysis unit that has only five patients daily. When the patients face any problems, they are referred to another larger hospital.

Concluding the above, nurses confirmed the shortage of staff and lack of time and clearly considered them as obstacles to patient education. They felt that their routine job is very demanding and does not allow them to conduct activities such as educate patient.

4.4.3 Limited knowledge

The participants considered that having limited knowledge to educate nephrology patients was another preventative factor for patient education. For instance:

> *"I lack the knowledge. Well, I have power, but I am missing knowledge." (03-F-LA-35)*
>
> *"Sometimes we may not know our subject very well. We ourselves may not know how to…how to teach the patient.…The correct way to teach.…" (07-F-NI-33)*
>
> *"It is the lack of knowledge, lack of time. The two major things I can think of now." (04-F-LI-27)*

Participant 14-F-LA-36 who is very experienced confirmed all the above:

> *"But on more specialised issues I can't say that I have enough knowledge to explain something.…But there are things on the machine I don't know. Some things I want to learn. But unfortunately, we haven't…"*

When a nurse administrator with 25 years of experience in CKD care was asked to rank the knowledge of her nurses in the CKD care settings, she simply answered:

> *"Inadequate." (15-F-LA-47)*

Participants identified nurse education as the source of the extra knowledge needed.

> *"Education…because experience is not enough, say in relation to the time the experience we gain is not enough…to be able to properly educate a patient who required haemodialysis." (04-F-LI-27)*

The interesting part of this statement is that the participant identified that experience alone is insufficient and extra education is required.

Additionally, most of the participants understood that their lack of knowledge left them unprepared to educate CKD patients. Participant 08-F-NI-33 supported that nurses who were new to working in the nephrology field were unprepared to educate patients at the beginning. She clarified that only after gaining experience did, she know what information was needed and how to educate her patients:

"Well…I didn't feel prepared at all. I can't say that I felt prepared because I gained experience through work, and that is where I understood what it is I should advise on and how to…teach the patients."

Participant 07-F-NI-33 reported that when nurses completed their studies, they might be prepared to educate patients on general matters. But as they are not being adequately prepared for nephrology patients, they have to study on their own to learn more:

"Well, I wasn't ready. I couldn't do it to the degree…. And I can tell you that my part in teaching about medication from the time that…I was in my first or second year...I was prepared to do it.…I wasn't this way with all subjects though. It's just that this subject appeared to me. I made an effort, studied, educated myself, I opened books, I looked things up online.…I didn't stay where I was when I finished nursing school."

The participant was motivated by the new subject of her work and tried to meet the requirements through personal initiative and effort to improve her knowledge.

Also, participants revealed that during their undergraduate studies patient education was only mentioned but not emphasised.

"At the school…This was always…psychological support. Teaching…it may have been mentioned, but we didn't give that much emphasis to the matter." (08-F-NI-33)

It is of great interest that nurses are not prepared during their undergraduate studies to educate patients, although the patient education role is a mandatory responsibility of the professional nurse. It is really important here to highlight that nurses are unprepared to educate CKD patients due to the lack of continuing education, which could be because there are no administrative strategies to confront this issue.

When participant 05-F-LI-45 was asked about their preparedness to educate, she stated:

"In school, yes, what about afterwards, however? Before I came to the department of haemodialysis, there could have been a course, two to three months, so we could integrate better..." (05-F-LI-45)

Likewise, participant 12-F-LI-34, when discussing the expected outcomes of a course in nephrology nursing, made clear:

"Knowledge not just practice…deeper knowledge. The ability to help the person, I must deal with all aspects, rather than just entering a ward and not being familiar with the subject"

It is obvious that nurses feel that their knowledge is too limited to undertake the role of educator for nephrology patients. This situation is probably due to not having enough support and that the department does not have a strategy which would allow nurses to smoothly integrate into the field of nephrology.

4.4.4 Nurse - doctor boundaries

Some participants identified that patient education belongs to the doctors' duties. 165eco interdisciplinary boundary between nurses and doctors obviously acts as a barrier for nurses to be involved in patient educational activities.

A participant not only reported that doctors have the duty to educate but also implied that doctors constrain nurses from patient education and tell them to remain within the limits of physical care.

"Yes, it's...let's say that thing…the doctors, doctors.... you stay out of it, just do your part, standard care." (03-F-LA-35)

The same participant particularly recognized that even if nurses have the knowledge to educate patients, they do not have the right to do so because their professional responsibilities end where doctors' responsibilities begin:

"I may have the knowledge, but the constraints due to some other conditions do not allow us to express, to talk about this thing. Our jurisdiction stops here, and 165eco there begins the jurisdiction of the physician. We have nothing to say." (03-F-LA-35)

It is obvious that this participant is worried about crossing the doctor–nurse boundary. She indicated that there is no clarity between the nurses' and doctors' responsibilities. Also, participants recognized the doctors' precedence in providing advice and information to patients and saw their role as just supplementary.

"Normally, the patient should go through the doctor first for advice. Not what to be careful of, of course, we can tell them what to take care of, but ok." (01-M-PA-25)

This was also expressed by a participant with only one year of experience in CKD care who supported that doctors inform patients about their fluid restrictions and diet and nurses rather encourage them to be careful in general.

> *"The doctors (inform the patents) …and we also inform them that they must be careful."*
> *(06-M-LA-41)*

Additionally, when the participants were asked who informs and teaches patients at the beginning, one participant replied:

> *"…I doctor" (12-F-LI-34)*

It is remarkable that nurses either do not recognise patient education as their role or they are unwilling or even frightened to cross any boundaries, even though patient education has long been considered a mandatory and independent nursing role that meaningfully impacts patients' health and quality of life.

4.5 Difficult patients

The increasing prevalence of chronic disease worldwide is a challenge for nursing, as it evokes concerns about several issues such as patients' quality of life, healthcare costs and a workforce that is adequate to meet the rising demands for healthcare services. Having chronically ill persons become more involved in their healthcare by participating in self-management programmes is a particularly necessary step. However, despite the best intentions and efforts on the part of the nurses and other healthcare professionals, the expected outcomes may not be attainable if the patients are non-compliant. This shortfall might have serious and harmful effects for disease management. This part of the chapter provides a detailed discussion on the selective category "difficult patients" and how they behave and react, in particular.

Many participants expressed the tendency of numerous CKD patients to abandon themselves, leading to devastating outcomes for their disease progress and health conditions in general. Participants highlighted patients' anger, as well as their non-compliance to required regimens, due to their negativity to follow health professionals'

instructions. Participants' views and experiences revealed the demanding aspect of many chronic CKD patients and their refusal to accept their illness that leads them to their resignation. While coding the transcripts, certain themes were identified and gathered into more substantive categories. Each category was analysed and several of these were brought together into the category of "difficult patients". Each of the themes under this topic is discussed below.

4.5.1 Self-neglect

Many participants stated that there are patients who have let themselves go and were responsible for reaching the point of end-stage renal disease and needing a transplant.

> *"Might have diabetes, does not take care, this caused renal failure. Has blood pressure, not careful, yes, okay, if someone's stung by a scorpion, it is not his fault...there are also those incidents. But most of [their problems] are due to neglecting themselves and they really need some advice." (10-M-LI-35)*

Blaming the patients who have a chronic condition such as diabetes mellitus, hypertension, or any other condition that led them to have chronic kidney failure was evident. Many participants supported that these patients have their current health conditions because of their own negligence to manage their diabetes mellitus or to control their blood pressure or any other health problem. For example, the same participant stated:

> *"If someone was diabetic, say, most diabetics have hypertension, most are dialysis cases. Usually they were not taking care, so they ended up on haemodialysis." (10-M-LI-35)*

Another two participants shared the same opinion. They maintained that patients with a chronic disease, mainly diabetes mellitus but also hypertension and hereditary diseases such as polycystic kidney disease, give up and are non-compliant with their care and treatment recommendations.

> *"The first reason is diabetes, I think. There are many cases that are much neglected; they do not follow the necessary analyses and procedures over time to keep an eye on*

their health. We have a lot of diabetes cases in Cyprus, hypertension, hereditary diseases.…" (11-F-NI-45)

Interviewee: "You know? To end up here means that you gave up on yourself."

Interviewer: "They gave up on themselves?"

Interviewee: "They may notice the symptoms and go to the doctor on time. But if they ignore them, and they say, 'I'll go next year', they ignore it and they end up here. If they cared more when they were younger.…" (16-F-AM-52)

According to the participants, these patients could not accept their illness, and consequently they could not cope with their health problem, the treatment demands, the daily efforts, and the outcomes of their illness in relation to their quality of life.

When participant 14-F-LA-36 was asked to clarify why she mentioned that some patients were not very cooperative, she gave as an example the case of an educated patient who, despite his knowledge and awareness of his health situation, had not complied with food and fluid restrictions.

Interviewee: "A certain patient is an educated man. Now he is 62 years old, he studies the machine, he knows many things, he has a lot more health problems too and he says that he will enjoy the rest of his life. He doesn't want to lose some things."

Interviewer: "He doesn't follow his diet…his water restrictions?"

Interviewee: "Yes, yes."

Participant 01-M-PA-25 referred to another similar case where the patient seemed to be indifferent to a serious problem that can progress into a life-threatening situation.

"Yes, because I see some, those come with infections all the time. We have one girl who pays no attention at all to her infections.…She has subclavian, and she takes antibiotics vancomycin and gentamycin. Yes, now it has been three to four months that we prescribed her with Apotel (paracetamol) all the time to prevent her fevers."

The fact that some patients are unresponsive to treatment can also be seen by their unwillingness to even communicate with nursing staff. They will not share anything if

they are not asked to, or they want to leave as soon as they finish their haemodialysis session.

> *"Some people won't tell you anything if you don't ask them…. If you ask them, they will tell you." (15-F-LA-47)*

> *"A goodbye and they leave. Because I think this is also the aim of the patients themselves, to finish and leave quickly. The patients don't even sit for five to ten minutes after their haemodialysis, which they have to. They don't sit and they leave immediately." (01-M-PA-25)*

In conclusion, the diagnosis of any chronic illness, including chronic kidney failure, confronts individuals with a collection of tasks that they must physically and psychologically adjust to. It is more than necessary for the patients to accept the disease, acquire new skills and change their daily routines to manage the symptoms of the illness or cope with the demands of treatment. The individuals' views about their illness determine how they respond to their illness on a behavioural and emotional level. Therefore, it is important for healthcare providers to explore patients' personal beliefs about the seriousness of their illness, their ability for self-control, and the impact of the illness and treatment on their daily life.

4.5.2 Negative attitude to receiving instructions and learning

The emerging data from the interviews stresses that many patients are unwilling to accept advice, instructions, and information from nurses. The participants reported that patients claim that they are aware of everything and are even make provocative statements such as that they do not drink water at all.

> *"There are many times when the patient may be negative against you and say 'I know these things; I don't need you to tell me; I know these things, I am the patient; and I am the best doctor for myself. And I don't need you to tell me these things." (08-F-NI-33)*

According to this participant's perspective, patients argue that they know everything, and they do not need any further information or instructions. Most probably these patients perceive themselves to be unable to control their illness and they struggle to

cope with the fact of being dependent. Similar aspects were shared by another participant who highlighted the patients' negativity to follow instructions by stating:

> *"…So it wasn't that she could not understand, it's just that she was a very stubborn woman, how else can I say it, and she didn't want, she would not accept to talk about her fluids, her diet etc.…or about her fluids, I explained to her, and she tells me 'I don't drink water'." (09-F-AM-34)*

The participant's characterisation of the "*stubborn woman*" and the patient's challenging words, "*I don't drink water"*, indicated a strong unwillingness to listen and follow detailed information or orders. The same participant described another patient who denied and doubted his doctor's instructions to start insulin therapy and several patients who generally refuse to care for themselves.

> *"Like today, one gentleman we mentioned…for example, the doctor told him to go on insulin. You need to go next door to the diabetes clinic, for them to examine you for insulin. And he said, 'But not such food. My wife makes it this way and that way, and I don't know what else, you understand'. He is in denial…you understand? And we are talking about insulin, not about dialysis.…" (09-F-AM-34)*

> *"But I believe that this is also up to the patients themselves. I mean, it is what I mentioned earlier. There are patients who are accepting and really do try based on what you tell them, and this helps them. There are patients who are always in denial and don't help themselves …" (09-F-AM-34)*

Negative patients seem unwilling to change their attitude even when health professionals make special efforts to help them, but they remain indifferent and stubborn.

> *"Most of them come with high potassium levels, so.…They don't follow their diet. I have repeatedly brought a dietician. He saw them, told them, gave them their diets in writing, and I just reached the conclusion that they, I don't know…they are weary and exhausted patients.…" (16-F-AM-52)*

Furthermore, the same participant pointed out nurses' endeavours to help patients, but at the same time she charged patients with their own responsibility to convert their negativity into acceptance and compliance. Furthermore, she specified that the patients' negativity is due to their lack of concern and fear.

"The nurses interact with the patients. But they [patients] must try themselves; some of them are very negative and so scared that they don't want to know.…There are also the indifferent ones; there are the frightened ones, the cowards.…I don't want to know – tell my wife; I better not know.…" (16-F-AM-52)

Interestingly, participants 09-F-AM-34 and 16-F-AM-52 work in a very small haemodialysis unit where, according to emerged data, nurses have the time to communicate enough and establish strong interpersonal relationships with patients.

Participants also surmised that the patients' negativity is related to the Cypriot character and culture.

"We…Cypriots, have no discipline. The patients…yes, yes. They do not follow instructions, do whatever they like, and it is very difficult.…And you should train not only the patient but also the people around him." (05-F-LI-45)

Patients' unwillingness to learn was raised by participants who argued that it was part of their character, as was the resulting responsibility of managing their own health issues. The unwillingness and indifference of these patients to learn was underlined by an experienced nurse, who had this observation of the patients' attitude in haemodialysis unit where he works:

"…The patients say, 'Put me on quickly and I need to leave, I have a problem.'" (10-M-LI-35)

Respondent 05-F-LI-45, who was very experienced in CKD patient care, highlighted that patients and their families were unwilling to be educated, and she argued that this is due to the culture of Cypriots, as they tend to be afraid of responsibility.

"They [patients] show indifference to their education.…I think it's our culture in Cyprus.…It has happened to me not only for the patient but also, in his environment, for his family to be negative to education. They did not want to learn, did not want to.... They did not want the responsibility."

The patients' fear of learning and knowing about their health problem, treatment, and their own participation in the management of their disease was highlighted by participant 16-F-AM-52 who stated:

"…Some of them [patients] are very negative and so scared that they don't want to know."

Another participant clarified that only the young patients are willing to ask questions and learn about their health conditions and treatment.

"…Mostly the young people ask questions." (12-F-LI-34)

In conclusion, the emerged data revealed that some patients refuse to listen to their health professionals and follow instructions that they receive from their doctors and nurses. This is possibly because patients feel disappointed and helpless, as they have lost their autonomy, resulting in them developing passive coping strategies such as denial and avoidance.

4.5.3 Denying reality

The data indicated that patients refuse to deal with their illness and all relevant restrictions imposed by the illness and its therapy. They also tend to withdraw into themselves.

A very experienced nurse in the field of CKD care clarified:

"There are patients who do not accept their illness and want to withdraw…they withdraw into themselves…despite the fact that now most patients are already informed about these things.…err, I mean that with their admittance to the ward and their diagnosis from the doctor, err…most of them know about what they should do;…they know what their illness is and what they need to do…" (08-F-NI-33)

In addition, another nurse administrator with 28 years of experience in nephrology care confirmed the above by saying:

Most of them don't want to believe it; 'I don't have high blood sugar.' 'You are diabetic.' 'No, I don't have high blood sugar.' The time comes when they must take insulin. 'No, I don't have high blood sugar,' they insist. Denial…" (16-F-AM-52)

Although they are aware of the situation, it seems that patients reject a frightening diagnosis and its consequences from the fears that emerge from the whole situation.

4.5.4 Being angry

The data revealed that anger and frustration are common among patients with kidney disorders, because of the outcomes of their disease and therapy.

Participant 16-F-AM-52, who has spent her whole career of 20 years dealing with and caring for CKD patients, strongly expressed the anger and aggressiveness coming from such patients. Also, she referred to the psychological and violent consequences for nurses, but she understood.

> *"…Most of them are angry even with God.…They are here all the time; they are negative and angry. Normally, they should see a psychologist every week. But they wouldn't accept that. It's truly difficult and wears you down.…"*

and

> *"I know that the patients are angry, that they might insult you or say something mean. Listen, our patients' behaviour is expected. I expect this type of behaviour. First, they are angry because they are not getting better for example. They might be angry with the nurses, the nephrologists, with everyone because they have this condition. I understand that.…One patient attacked me the other day, but I didn't pay much attention."*

A nurse administrator confirmed the aggressive behaviour of some patients:

> *"When I talk with the patients, some nurses tell me that this patient was upset…" (13-F-LI-55)*

There was one interesting comment from a haemodialysis nurse who blamed aggressive patient behaviour on the nurse administration, since she believed they actually allow the patients to be undisciplined:

> *"It is a matter of lack of support from the administration. Because they tell us to do whatever they tell you so that they don't shout." (12-F-LI-34)*

Recognising patient anger is necessary for ensuring nurses' and patients' safety.

4.6 Nurses' defence techniques

Nurses who deal with difficult and stressful situations tend to react defensively in their effort to prevent emotional exhaustion. According to the findings of this study, nurses' defensive reactions consist of keeping a distance and showing disinterest.

Participants revealed that some nurses seem to be consciously indifferent to either colleagues or patients when they want to escape from situations that could possibly cause them psychological stress. An experienced nurse expressed her disappointment in some colleagues who did not support other nurses in the unit, as is expected. Also, she commented that their indifference had negative outcomes for the whole nursing team performance.

> *"…With colleagues, uh..., okay with some we have very good cooperation with others. As I told you, they are indifferent and that is where you become angry." (05-F-LI-45)*

and

> *"Because you see that one day the team can fly and the next day when you may have one who is indifferent, no... It affects everyone." (05-F-LI-45)*

A nurse with 15 years of experience in CKD care disclosed that several nurses focus on the safety of patients during the dialysis session, but they do not care about what will happen for the patient afterwards.

> *"I think that in every shift they want to feel safe during the haemodialysis session. Now, when they finish their treatment is their own matter…" (11-F-NI-45)*

The indifference of some staff was also confirmed by two participants who argued that there are nurses still giving their best and support their patients, whereas other nurses keep a distance and show disinterest in their effort to protect themselves.

> *"Some of us are strong and can handle it and fight and are still close to the patient, some of us cannot handle it. And by trying to protect themselves, they hide behind the mask of indifference, behind the mask of the typical professional." (12-F-LI-34)*

> *"There are staff that won't bother. They just see the patient and go. They don't…they just do the necessary things." (14-F-LA-36)*

There is no doubt that nurses' indifference can lead to poor patient care, and nursing management should identify the sources of it and support nurses to overcome all the triggers of their disinterest.

Participants revealed some distancing strategies that nurses employ during their practise because of the fear of being unable to handle their own emotions. It was clearly expressed that these nurses do the necessary interventions for the patients'

haemodialysis session but nothing more than that. They connect the patients to the machines and then keep an emotional distance.

> *"Yes, they go in the ward, do their job, insert two needles, insert a catheter, do you need anything Mr. Andrea? Yes or no and depending on that they proceed and distance themselves." (12-F-LI-34)*

The very experienced participant 11-F-NI-45 confirmed that nurses keep a distance from their patients to prevent developing a closer interpersonal relationship that could lead to negative outcomes for them.

> *"You are going to hear him (patient), but it is what I mentioned earlier. You must be a little reserved because then they will be entirely dependent on you, and this negatively affects your own psychology. Then something could happen against you."*

Keeping a distance, which colloquially is "being a cold fish", seemed to be a defensive technique. However, ideally, nurses should be capable of separating themselves from their work and protecting themselves from becoming emotionally inactive.

4.7 Conclusion

In conclusion, the analysis of the data from the 16 interviews revealed that nurses working in renal care settings undertake five major roles: operators of dialysis machines, holistic care providers, unit bureaucrats, patient educators, and emotional supporters. However, the nurses' views about these roles varied among participants depending on their length of experience or the hospital setting in which they work. Furthermore, an important identification of this analysis is that nurses feel unprepared to work in such a specialised area. From one point of view, this could be due to inadequate preparation during undergraduate studies, but it indicates the need for preparatory courses or programmes before nurses are employed in such settings.

Organisational issues were raised as factors affecting the efficiency and development of nephrology nurses. The rotation system does not seem to ensure better staffing of CKD care settings, whereas the inconsistent expectancies from the CKD care staff uncovers the lack of certain criteria and expectations of potential nephrology nurses. Certainly, the limited number of opportunities for professional development affects

nurses themselves but also the level of care provided as well as professional nursing autonomy.

The limited implementation of patient educational activities was highlighted by most of the participants. Most of the participants referred to inadequate administration to support nurses, as well the shortage of staff and lack of time, that obviously stifles the nurses' efforts to successfully meet the needs and demands of their patients. Inadequacy of nurses' knowledge and nurse–doctor boundaries complete the list of the main barriers to patient education.

Nurses emphasised the issue of difficult patients which cause them psychological tension and emotional burnout. Difficult patients were described as self-neglecting, having negative attitudes about following instructions, concealing personal information, denying reality, and reacting aggressively, unwilling to learn, and becoming overly dependent. Finally, nurses referred to their defensive strategies to counteract emotional stress, such as indifference and maintaining personal distance.

CHAPTER 5: DISCUSSION

5.0 Introduction

This chapter reviews the findings of the study and compares them with the existing literature.

A discussion of the main issues derived from the findings is presented under the following sections: “Nurses’ roles in CKD care”, “Nurse preparation”, “Organizational issues”, “Barriers to patient education”, “Difficult patients”, and “Nurses’ defensive behaviour”. Following the discussion of themes, this chapter proposes a framework of nurses’ roles and the factors affecting those roles. It then describes the study strengths and limitations, implications for nursing practice and research, and finally concludes. The primary aim of the present study was to fully understand the experiences of nurses providing care to people with chronic kidney disease. The use of Interpretative Phenomenological Analysis permitted me to study in depth the participants’ lived experiences. The aforementioned goal of the IPA is to investigate how individuals make sense of their own and their social worlds, and the goal of the current study was to investigate how our participants make sense of their involvement in the field of CKD care. Our discussion focused on understanding and interpreting nurses’ behaviour instead of generalizing and suggesting causes and consequences.

In addition, we reviewed our findings in the context of existing literature.

5.1 Nurses' roles in CKD care

5.1.1 Operators of dialysis machines

It is clear from the study results that nurses experience various roles in providing CKD care. The role of operating the dialysis machine was mentioned by all participants as the task they are most responsible for, which is supported by previous studies (Tranter et al., 2009; Bennett, 2011). Nurses highlighted that connecting and disconnecting the patients from the machines was their chief duty. In addition, some of them referred to observing the patients' vital signs during the dialysis sessions and emphasized that their level of attention was intense, because of the risk of a complication and other safety issues affecting patients.

It is evident that nurses who have less experience offer a constrained spectrum of nursing care, and they work in a task-oriented and mechanistic manner, concentrating on carrying out certain nursing tasks, which they view as short-term goals. Task-oriented nursing care was firstly implemented during the Second World War to respond to numerous wounded soldiers in the hospitals (Marquis & Huston, 2015). The routine assignment of defined tasks to nurses improved their competency because the tasks and procedures could be carried out methodically. However, it also led to fragmented nursing care, where the goal was to complete the task rather than administer care to the patient (Kron & Gray, 1994).

Consequently, that raised concerns that the care provided to patients was depersonalized, as research has highlighted the purely mechanistic care of professional nursing. The unfortunate aspect of task-oriented care is that nurses see themselves as being dependent rather than recognizing that all nursing should be

independent within the larger context of a framework in which interventions are directed towards the particular situations of clients (Glass, 1983).

The fact that the vast majority of nurses working in CKD care settings in Cyprus are not specialized in nephrology nursing rationalizes their narrow focus of practice of providing non-individualized and task-oriented nursing care. There is a need for expert nurses who could reach their full potential and not be constrained by the standardization of care and practices that prevail in many healthcare settings. (Christensen & Hewitt-Taylor, 2006). According to Francis (2013), there is no agreement about nursing practice that maintains the integrity of the whole person (i.e., patient) but rather promotes actions that lead to a series of disaggregated, depersonalized tasks. Bonner (2007) claimed the characteristics of non-expert nephrology nursing practice include superficial knowledge, restricted experience, basic skills, and a limited scope of practice. Consequently, nurses' performance in CKD care settings is impeded by those factors.

5.1.2 Holistic carers of the patients

A few participants reported that they provided holistic care, which agrees with previous research findings (Walker et al., 2010). The aim of holistic nursing is to give patients the best possible care based on their physical, psychological, social, cultural, and spiritual needs (Koithan, 2015). It seems that only experienced nurses broaden the scope of nursing activities to focus on patients' overall needs. The less experienced nurses were more task-oriented, which Chen et al. (2017) found to be a barrier to the provision of holistic care. Furthermore, the respondents argued they needed more preparation and training, and that the perception that their competence is low has a negative impact on their performance (Tuyisenge et al., 2019). In support of the

significance of professional nursing experience, Shafipour et al. (2012) asserted that individuals with more professional experience can play a greater supporting role in the therapeutic team than those with less experience.

It was evident that the participants with extended experience in practice go beyond the requirements of the haemodialysis session and work to meet the multidimensional needs of the CKD patients through a holistic approach. According to Zhang et al. (2017), holistic nursing fosters an individualized, scientific approach to nursing that considers the underlying causes of patients' problems and their conditions, and it is able to significantly improve patients' health. It is clear that with broader experience in the CKD care area, nurses acquired more knowledge and developed communication and observational skills to see further and focus on improving patients' health rather than just on certain nursing tasks, such as operating the machine.

Good communication between nurses and patients results in good quality nursing care, nurses having greater empathy for their patients, and patients trusting the nurses better, thus establishing the foundation for the therapeutic relationship (McMillan et al., 2016). The difference in nurses' perception of their role might come from the fact that experienced nurses have the knowledge to understand how to prioritize the spectrum of nursing activities in relation to patients' needs (Bonner, 2007).

5.1.3 Unit bureaucrats

The bureaucratic role was verbalized by participants with varying lengths of experience. They emphasized the remarkable amount of time spent on nonessential paperwork and other clerical tasks. Filling out test forms, adding the various test

results to patients' files, and preparing discharge papers are some examples of documentation activities not related to nursing care, confirming that CKD nurses remain limited by a technical-bureaucratic model. This overt bureaucracy certainly can result in many challenges for nurses, since they spend valuable time on tasks other than on direct and holistic patient care (Chen et al., 2017). Indeed, utilizing the available time for secretarial tasks is a challenge for nurses in their daily practice. Nurse administrators could solve the issue of excessive paperwork by minimizing the need to produce lengthy, repetitive nursing reports. The importance and priority of bureaucratic tasks should be determined according to the patients' holistic requirements. Undoubtedly, completing unnecessary paperwork is part of nurses' workload, although it further reduces the time available for other nursing interventions. Because of time restrictions, nurses said they were unable to spend much time talking to patients or responding to patients' individual requirements. This finding is supported by Chen and Raingruber (2014) who revealed that most nurses struggle to manage time-related challenges.

5.1.4 Educators for patients

The majority of participants acknowledged that patient education was one of their roles in CKD care, which endorses findings of earlier studies (Bonner, 2007; Walker et al., 2010; Bennett, 2011). The importance of educating patients with chronic kidney failure was emphasized. Also, the participants stated that good quality patient education will favorably impact the patients and increase the prospects of having a satisfactory quality of life. The literature well recognizes that education for CKD patients is an essential aspect of their care, and that patient education is effective in improving

patients' knowledge, can delay the progression of renal disease, and can promote quality of life (Narva et al., 2016)

However, despite understanding the value of patient education, the majority of participants, even very experienced ones, testified that very limited education is offered in the daily nephrology nursing practice. The participants of this study cited various reasons for the lack of patient education, such as, when the patients are on dialysis, nurses should not disturb them, patients do not require training, and the nurses will answer any questions patients ask. Conversely, nurses with more experience in CKD care referred to their role as educators and the range of topics they educate CKD patients on, including food and fluid restrictions, medicines, prevention of infections, management of their fistulas, electrolyte disturbances, physical exercise, and issues of transplant patients. Nevertheless, it is noteworthy that the topics taught differ from nurse to nurse or from hospital to hospital, which demonstrates the lack of a detailed policy from the nursing administration regarding patient education as well as specific clinical guidelines for its application. The important role of experience is supported by Fitzpatrick and Hyde (2005) who studied nurses' knowledge of patient education and found that even experienced nurses lack uniformity regarding the choice of teaching content.

Another essential finding was that several of the participants disregarded their function as educators, because they did not believe that patient education changes health behaviours. Instead, they perceived themselves as instructors who provide relevant information to patients on certain problems. This may also demonstrate they lacked understanding of the need and meaning of patient education and that their expertise in CKD care was inadequate (Hassona et al., 2012). These opinions recall the 1980s

when researchers found that insufficient paedagogical education and low competence were barriers to patient education, thus professionals were focused on passing on information to patients rather than using patient understanding as a starting point (Bergh et al., 2014).

5.1.5 Emotional Supporters

Participants in the present research emphasized the crucial role they play in providing their CKD patients with emotional support. The experienced participants highlighted the significance of patients adapting to the demands of their dialysis therapy and food restrictions. It is interesting to note that they recognized the possibility that patients become depressed as they start to adapt to their situation, and that it is crucial to care for these patients' psychological needs.

The literature has well established that people with CKD have a number of limitations in their daily life that impact on their perceptions about their condition and sense of control, which can cause anxiety and despair and impede their ability to cope and adjust (Finnegan-John & Thomas, 2012). Participants demonstrated awareness of the significant risks that CKD patients have for depression and the important role that nursing care plays in detecting such symptoms. This is significant because patients receive several benefits when they perceive they have emotional support from the nurses, and that has been associated with improved adherence to the prescribed treatment and self-care (Chalco et al., 2006, Finnegan-John & Thomas, 2012).

Notably, a few less-experienced participants did not refer to this role. According to one viewpoint, this might be because inexperienced nurses in the nephrology field put greater emphasis on learning and developing more practical skills and ignore or feel uneasy about the emotional support role. Their inability to handle emotional issues

may also cause their unease. According to Brown et al. (2013), renal nurses reported that when they are emotionally challenged, the atypical need for emotional management skills and the lack of an ongoing requirement for intensive support meant they were unprepared to respond and provide effective support.

Some interviewees spoke of the stronger connections they establish with their patients who frequently visit the hospital due to their chronic illness that requires ongoing or recurring therapy. The participants referred to the different relationships that renal nurses and patients form through their prolonged and frequent contact. Relationships developed between renal nurses and patients as they became more familiar with each other and more naturally share personal information, which has been documented in the literature (Hayes & Bonner, 2010)

5.2 Nurse preparation

Another outcome of this research is that the majority of participants emphasized they were not trained to care for CKD patients when they first began working in a CKD care setting. In terms of the amount of information and abilities needed in such a specialized area, participants felt that basic undergraduate training was not enough because of the minimal theoretical courses and practical learning. Nevertheless, it is reasonable that some nurses would not have CKD care experience, knowledge, and specific skills due to the complex nature of these renal care settings. However, according to Benner (1984), nurses should feel they have mastered the ability to handle contingencies in the clinical setting after three years of experience. In contrast, the participants of this study demonstrated their feelings of being unprepared despite their years of experience in similar situations. Instead, they claimed they were still gaining basic

knowledge, which shows that not only was the undergraduate training inadequate for CKD care but continuing education is lacking or minimal.

The need for nephrology nurses to receive specialized training about CKD care has been stressed in the literature. Nobahar and Tamadon (2016) concluded in their qualitative study about the barriers to and facilitators of care for hemodialysis patients that nurses require specialized training to use dialysis equipment and manage problems arising from haemodialysis. Additionally, the significance of enhancing nursing staff training was highlighted by other studies. Shahdadi and Rahnama (2018) argued that a higher nursing education level was among the main contributing elements to the haemodialysis care provided. Providing dialysis education programmes and upgrading the educational level of nurses have been highlighted as two key facilitators of efficient, optimal, and high-standard care. Tuyisenge et al. (2019) also underlined that the needs of so many patients outweigh the time and human resources available, and that there is a compelling need to increase the size of the nursing staff and the level of training. These findings reinforced the outcomes of an older study that highlighted the lack of continuing education for nursing staff (Murphy, 2004).

Additionally, it was found through the interviews that only two hospitals have recently started assigning certain nurses to mentor new nurses to the ward/unit. However, it is notable that only two of the participants—who were also mentors—referred to this new endeavour. On the contrary, other participants revealed that newcomers to the haemodialysis units had no support or any type of training from their colleagues, especially the older ones. Similarly, others believed that there should be somebody in the unit when they begin working there to give them general training. The absence of

an appropriate induction approach for new staff, including newly qualified nurses, was expressed in an earlier study (Murphy, 2004).

Shahdadi and Rahnama (2018) found that caring for haemodialysis patients is linked to nurses experiencing negative personal effects (physical damages), mental effects (misconduct, bad temper), feelings of burnout, obsessions with one's health, feelings of anxiety and depression, a tendency to quit the department, and negative family effects (neglecting children, being unable to meet spouse's needs, being unable to perform housekeeping duties, and interfering with family matters). Myers et al. (2010) supported that a single instructor was favoured by the majority of newly licensed nurses. Several newly qualified nurses (RNs) mentioned the need for instructor feedback to reassure them that they were working safely. The stress level of newly licensed nurses increased significantly when they did not receive feedback, and they tended to refrain from asking their instructor questions. This is strengthened by the findings of this research that one newcomer suffered psychological tension that led him to believe he was hearing the noises from the dialysis machine while he was at home.

5.3 Organisational issues

The standard of healthcare is one of the most crucial elements that affects how individuals perceive their quality of life (CGI, 2014). The struggle to provide healthcare that is both economically viable and of excellent quality is at the same time the top issue for healthcare organisations worldwide and has led healthcare and health systems everywhere to make extensive adjustments (Durrani, 2016). Organisational

issues are considered to be the foundation for establishing job security, which is then positively reflected in nurses' job performance (Thulth & Sayej, 2015).

The findings of my study add to the growing body of literature evidencing that various organisational issues, such as a rotation system, the availability of resources, expectancies from care staff, provision of opportunities for continued professional development, and nursing autonomy, affect nurses in achieving their roles.

5.3.1 Rotation system

Most of the participants mentioned the rotation system that Cyprus hospitals employ, and they described their personal journey in various, unconnected care settings. Job rotation entails strategically moving nurses across two or more hospital departments to improve their overall capabilities and to benefit both nurses and hospitals (Correia Dinis & Fronteira, 2015; Alfuqaha et al., 2021). The idea has historically been applied at the organisational level, and it was created to increase an organisation's flexibility and adaptability while giving workers credentials from different departments (Iluk & Iluk, 2017; Mohan & Gomathi, 2015).

However, the findings of this study supported that the rotation system caused feelings of annoyance, discomfort, and insecurity to nurses, strengthening previous studies. When implementing rotations, the frequency should be taken into consideration. This is because frequently having to work in different departments may result in nurses having reduced job satisfaction, caused by feelings such as unhappiness, insecurity, stress, frustration, fear, and anxiety. as well as feelings of exclusion, incompetence, and unwillingness (Ho et al., 2009; Järvi & Uusitalo, 2004; Pinhatti, 2017).

Beyond the negative feelings expressed by respondents, one participant raised the issue of being bullied when their opinions do not coincide with those of the administration. Shorey and Wong (2021) revealed that nurses were indoctrinated to keep their ideas to themselves by colleagues holding more powerful positions. Those who voiced their opinions -were either subjected to disciplinary action, received unsatisfactory performance evaluations, or unfair allocations. Given that professional happiness is linked to better performance, better organisational outcomes, and better quality of care, it is crucial to comprehend the relationship between nurses' job rotation and their feelings of satisfaction (Lu et al., 2011).

The fact that participants voiced their frustration and insecure feelings about job rotations, and linked them with ineffective interaction with nursing administration, highlights the necessity for both the administration and the nurses to accept the changes. This outcome reinforces the study by Pinhatti et al. (2017), which explored nurses' feelings of a job rotation scheme among ospital units that was implemented to diminish conflict. They reported that nursing staff members had both positive and unfavourable feelings and perceptions. They concluded that job rotation is a proper management technique to minimize conflict, but they emphasised the necessity of including the staff before implementation.

On the other hand, very experienced nurses verbalized the positive outcomes of the rotation system, such as expansion of knowledge, acquisition of various nursing skills, and prevention of professional burnout. Halberg et al. (2020) agreed with these findings in a study that demonstrated personal advantages for job-rotating nurses of improved knowledge, abilities, and influence. Additionally, nurses had educational gains through exchanging knowledge. When this exchange occurred, they viewed job

rotation favourably. Moreover, other studies (Chen et al., 2017; Correia Dinis & Fronteira, 2015; Ho et al., 2009; Mohan & Gomathi, 2015; Pinhatti, 2017) found that job rotation has positive effects on personal experience, development, and growth; improved motivation, knowledge, and skills; broader insight into organisation and recognition of peers; a positive impact on job satisfaction; cultivation of collegial relations; and enhanced career opportunities.

Three very experienced participants who had been rotated only in CKD care settings, claimed that rotation in related nursing settings enhance the knowledge base of the specific field and the development of particular nursing skills. They were employed in haemodialysis and peritoneal dialysis units, the nephrology ward, and the kidney transplantation unit. Two of them had twelve years of experience, whereas the third one spent twenty-five years in the nephrology ward and the haemodialysis unit. The literature supported that job rotation that is based on the same category of patients can be a means of optimising patient safety and quality of care by setting up a link between wards and unifying the nursing care (Halberg et al., 2020).

A rotation system would undoubtedly be advantageous to both nurses and organisations, but it should primarily be available to freshly registered nurses and nurses with some experience who may choose to advance their education in different fields. Furthermore, people who do not want to participate in rotations should always have access to permanent positions.

5.3.2 Lack of administrators' response to deficiencies in staff and equipment

Nurses participating in the current study conveyed that hospital organisations and nursing administrations failed to address staffing and equipment deficiencies, and there was a lack of written guidelines for various nursing interventions. Nursing

shortages are well documented in the literature (Thomas-Hawkins et al., 2008; Tejada-Tayabas et al., 2015). Shortages have been linked to greater mortality rates of patients and more unfavourable patient outcomes according to numerous research conducted in various nations (Diya et al., 2010; Cho et al., 2008). The issue is that while many nations are challenged by inadequate staffing of nurses, multiple reports have focused on the standard of nursing care and the possibility that substandard nursing care could seriously harm patients (Care Quality Commission, 2011; Health Service Ombudsman, 2011). When nurses have too many patients to care for, they are more likely to quit their jobs because they are fatigued and they do not have time to reflect or communicate with other nurses about various challenges (Chan et al., 2013).

The CKD care settings are considered technologically complex work environments where nurses deal with stressors associated with the nature of the work and their workplace surroundings, which can cause substantial rates of burnout (Hayes et al., 2015). Due to the variety and unpredictability of CKD care work and that CKD patients are considered difficult patients (Janosevic et al., 2019), nurses frequently report significant levels of workplace stress (Xu et al., 2020). It is argued that nurses working in high-effort / low-reward conditions experience a hostile work environment that has a number of negative consequences on their attitude toward their work (Siegrist, 1996). The effort–reward imbalance (ERI) model is widely used to explain job stress, and it has been applied to nurses in numerous nations (Ge et al., 2021; Padilla Fortunatti & Palmeiro-Silva, 2017). ERI is linked to depression, poor health, and cardiovascular illnesses (Eddy et al. 2017; Rugulies et al., 2017). It might also result in a decline in workers' job satisfaction and a rise in their intention to leave their current position (Leineweber et al., 2021; Hämmig, 2018). Additionally, this study found that

there are not enough very experienced or expert nurses in CKD care settings in Cyprus hospitals due to the established rotation system, and that causes feelings of fear and insecurity.

The findings of the study also exposed limited availability of equipment, especially haemodialysis machines. According to the respondents, the number of CKD patients has increased remarkably. Indeed, according to the Global Burden of Disease (GBD) (2020), the global all-age prevalence of CKD has increased 29.3% since 1990. The number of patients having renal replacement therapy goes beyond 2.5 million, and it is predicted to double to 5.4 million by 2030 (Liyanage et al., 2015). Certainly, the lack of resources could lead to low standards of patient care. Inadequate physical resources and equipment, according to Blackman et al. (2015), are predictors of missed care, whereas the availability of suitable modern equipment has a substantial impact on facilitating care delivery, lowering stress levels of nurses, and enhancing patient satisfaction. Furthermore, in a study by Rivaz et al. (2017), participants recognised that physical resources in the workplace, such as adequate and contemporary equipment, facilitate care and medical processes. Participants identified inadequate equipment as a significant factor that adversely impacted their work, because they occasionally had to skip crucial care activities or they were delayed in providing care, both of which led to mental stress.

Based on the above, health organisations must reevaluate their priorities and find solutions to these issues, taking into account that shortage of nurses and lack of equipment are closely related to the reduced quality of care provided to patients, leading to serious implications for patients and nurses. Perkel (2002) argued that good healthcare organisation responds to the needs of patients and employees. Sevy

Majers and Warshawsky (2020) claimed that the foundation for using guided management decisions is laid out by nurse leaders who promote evidence-based nursing practice. However, the nurse leaders' limited opportunities to be involved in the organisation of healthcare results in a lack of confidence in their ability to make decisions under a scrutinising and bureaucratic administration (Salminen, 2006). According to Honkavuo et al. (2018), strong communication and long-term interaction with decision-makers enable caring policies that benefit patients to be applied in healthcare institutions. The driving force for such organisations to grow and change is found in nurse leaders' ethical and real evolution, as well as their desire and willingness to progress and look to the future.

5.3.3 Inconsistent expectations of CKD care nurses

A very interesting finding is that nurse administrators have different expectations for the competencies that CKD nurses should have. The American Nurses Association and National Nursing Staff Development Organization (2010) defined competency as "an expected and measurable level of nursing performance that integrates knowledge, skills, abilities, and judgment, based on established scientific knowledge and expectations for nursing practice" (p. 86). According to them, competence includes the qualities needed to function effectively in the nursing environment and facilitate high-quality, safe nursing care (Melnyk et al., 2014). In this study, the nurse administrators' expectations of CKD nurses are evidently incompatible. For instance, a nurse supervisor with long experience in the operating theatre and only two years in the haemodialysis unit claimed that the ideal nurse is easy-going and disciplined and does not react negatively to the unusual time schedule of the haemodialysis unit. Additionally, the ideal nurse is quiet and, at the same time, very active. On the other

hand, a different nurse administrator would expect nurses to always be patient, respectful, and compassionate with their patients. These inconsistent expectations are likely to lead to different goals in practice and, consequently, to significant shortfalls that prevent healthcare organisations from achieving their primary objectives and endanger the healthcare quality, patient safety, and health outcomes (Melnyk et al., 2018). Certainly, the quality of patient care is ultimately influenced by nurse administrators who have a major impact on workplace culture. They should clearly define the expectations for the employees and distinguish between safe and unsafe behaviour.

5.3.4 Opportunities for continued professional development

It is generally recognised that nurses, including nephrology nurses, as healthcare professionals, must systematically update their knowledge and skills to meet the goals of their own practice. In a context of constant change marked by advancements in science and technology as well as rising social and systemic expectations and needs, the necessity for nurses' continuous professional development (CPD) increases. Nurses have the right but also professional duty to engage in CPD (Koff, 2016), which is essential for keeping their knowledge current, their willingness to work, and their ability to provide patients with safe care (Steven et al., 2018). CPD is defined as "a lifelong process of active participation by nurses in learning activities that assist in developing and maintaining their continuing competence, enhancing professional practice and supporting achievement of their career goals" (American Nurses Association and National Nursing Staff Development Organization, 2010, p. 1). It is evident from the literature that CPD encourages professionals to be enthusiastic, dedicated, and satisfied, which improves their retention and performance (Hariyatia &

Safril, 2018; Carlisle et al., 2011). Because of the efforts to increase patient safety and decrease healthcare costs, all of these factors have an impact not only on nurses but also on organisations (Gibbs, 2011). Self-motivation, relevance to practice, desire for workplace learning, strong enabling leadership, and a healthy workplace culture have all been cited as critical elements to enabling or optimising the impact of nursing CPD in recent literature reviews (King et al., 2021).

However, the findings from this study suggested that respondents experience barriers to be present at such learning opportunities, due to organisational factors or because they lack motivation. The participants emphasised how challenging it was to attend a nephrology nursing conference or seminar, that scientific journals were not available at work, and that there was a need for a nephrology nursing course.

Limited availability of time and a shortage of personnel were considered impediments to CPD, as these factors lead to scheduling problems for when educational seminars or professional conferences are held (Chong et al., 2011). Nurses' lack of motivation to participate in continuous education programmes has also been supported by the literature (Griscti & Jacono, 2006). Additionally, other studies indicate that limited financial resources or lack of an educational budget impact negatively on nurses' willingness to participate in CPD programmes (Fitzgerald et al. 2012). Interestingly, one respondent in this study implied that conferences may not always result in desirable learning outcomes, which concurs with Elsamian et al. (2015) who found that conference agendas did not always align with educational demands.

According to our findings, although a specialist training course for CKD nurses would be important, it seems that the nursing administration has a different opinion, because any professional development or acquisition of further academic qualifications are not

considered for nurses' promotion. Research indicates that professional development is not always acknowledged in the present, fast-evolving healthcare environment (Hoeve et al., 2014), and nurses engage in CPD when there are strong reasons for them to do so (Govranos & Newton, 2014). Therefore, it is crucial that strategies used to encourage nurses to participate in CPD address their actual needs (Griscti & Jacono, 2006). However, as noted by Jho and Kang (2016), the strategies created to encourage nurses' CPD sometimes fail to take these needs into account.

5.3.5 Nursing autonomy

An issue raised by the data is that of nursing autonomy. Respondents expressed their experiences where senior colleagues and medical staff did not allow them to assess and initiate activities, such as patient education, independently. This finding is in accordance with the literature, which suggests that the level of autonomy that nurses have depends on the context and other variables or limits, such as organisational regulations or personal and individual considerations (Dwyer et al., 1992). The definition of nursing autonomy encompasses a variety of characteristics, and it has arguably been confused with other concepts that are related to it, such as independence, self-governance, and accountability (Kramer et al., 2006). Clinical autonomy and professional autonomy are two well-known categories of nursing autonomy. The clinical autonomy of nursing professionals who offer direct patient care, according to Oshodi et al. (2019), refers to their capacity to go beyond standard practice and make decisions on individual patients' care. Professional autonomy can be applied to both the nursing profession as a whole and to individual nurses. It has been viewed as taking part in decision-making for the care of particular patients as

well as, more generally, developing nursing care practices to increase the standard of nursing and patient safety (Varjus et al., 2011).

The findings of my research add evidence to the literature supporting that nurses do not feel professionally autonomous. Baykara and Şahinoğlu (2014) argued that only 6.7% of the nurses who responded to their study claimed to have professional autonomy; they also noted that this autonomy was mostly constrained by the necessity to rely on doctors for nursing interventions and a high nurse to patient ratio. Varjus et al. (2011) implied that one of the key components of professional status is autonomy, and they emphasised the crucial role of nurse managers in determining how to empower nurses and establish environments that support independent practice. Furthermore, they provided evidence of nurses' job satisfaction, which is a crucial component of the work environment that enables nurses to perform better on the job. In addition, they showed that nurses who work in environments that value their autonomy exhibit greater job satisfaction, have lower rates of burnout, and are less likely to leave the field.

However, the literature identified barriers to nurses' autonomy in the hospital setting, some of which are consistent with study's findings. These include the doctor's influence over the nurse's work, the lack of technical-scientific knowledge, physical and emotional exhaustion from work overload, insufficient physical structure, a lack of supplies, adherence to prescriptions, and the nurse's reliance on the doctor for some care and/or action (Bonfada et al., 2018). It is noteworthy that a lack of professional autonomy could have a negative effect on both the quality of care provided to patients and the satisfaction of the nurses themselves.

5.4 Barriers to patient education

What was obvious from the findings of the current study is that there is no systematic patient education provided to CKD patients, although nurses perceive it to be a significant nursing role and also a fundamental aspect of the patient care (Walker et al., 2010). Patient education is a concept that encompasses informing patients about their condition, providing them advice and information, and showing them how to intentionally modify their behaviour (Atay et al., 2020). The concept of patient education also entails two-way interaction between the patient and the nurse and tries to develop and improve health or teach people how to adapt to conditions (Golaghaie & Bastani, 2014). Patient education has been defined as “a planned interactive learning process designed to support and enable people to manage their life with a disease and optimise their health and wellbeing” (Zangi et al., 2015). It can result in a variety of beneficial health outcomes, such as enhancing the patients’ understanding of their condition and adherence to treatments as well as their quality of life and ability to manage it (Kemppainnen et al., 2013). According to Aghakhani et al. (2012), patient complaints are most frequently linked to a lack of education about their condition whereas Bennett (2011) identified patient education as one of the key determinants and characteristics of high-quality nursing care.

Our findings strengthened the body of data in the literature by outlining a number of factors affecting the implementation of nursing activities by nursing staff.

5.4.1 Inadequate administration guidance

The majority of participants reported that they do not educate their patients because nursing management and specifically the head nurses or nurses in charge of their units do not provide them with any direction or support. They clearly related the presence of a policy for patient education in daily nursing practice with nurses regularly implementing patient educational activities. Nurse managers are responsible for setting standards, approving the content, and assigning time for nurses to educate patients (SOSFS, 2011). The aforementioned findings of my study are consistent with Fereidouni et al. (2019), who demonstrated that administrators did not sufficiently supervise the patient education process and did not prioritise it. Additionally, they observed that the supervisors' practical engagement was insufficient, and they did not prioritise patient education during their rounds or pay attention to it. Likewise, Daly et al. (2014) concluded that nurse managers must become more involved in clinical leadership and supervise clinical care if nursing quality and safety are to be improved.

In a study by Armstrong et al. (2015), which aimed to explore if nursing unit managers' actions promoted the delivery of high-quality patient care, it was found that direct patient care accounted for 25.8% of unit administrators' time, which was more than other tasks, such as administration, communication, and patient support. Giving direct care to patients include positioning the patient, helping new mothers to breastfeed, handing out analgesics, or helping patients to eat. The nurses in charge remarked that rather than giving these fundamental tasks of nursing care to a more junior nurse, they felt obligated to do them since there was no other option, either because the task was difficult or because of a lack of staff. Prezerakos et al. (2015) indicated the head nurse's insufficient authority, and the director of nursing's ignorance were barriers to

haemodialysis patient care and claimed that one of the most crucial elements in the workplace is the capacity for the director of nursing to create a framework for the provision of high-quality nursing care.

Effective nurse leaders are crucial for clinical practice because they make sure that the necessary personnel and resources are in place to deliver safe care and the best possible patient outcomes (Wong et al., 2013). According to a study by Bennett (2011), nephrologists, hospital or health center managers, and head nurses all impact on the quality of nursing care. The head nurse and the hospital management have the biggest influence. According to the patients, the ward manager, nurses, and outside influences could affect how well haemodialysis patients are cared for.

5.4.2 Shortage of staff and limited time

Even though nurses consider that patient education is a practice that is inextricably linked with quality patient care, the condition of work overload due to the shortage of staff and limited time is a challenge to patient education. The findings add evidence to the literature that considers these issues to be the main barriers to various nursing interventions (Nikitara et al., 2021; Tejada-Tayabas et al., 2015; Thomas-Hawkins et al., 2008), including patient education (Sinclair & Levett-Jones, 2011; Aghakhani et al., 2012). A large study carried out by Bennett et al. (2022) in 20 European and three Asian countries aimed to identify potential barriers and enablers of rheumatology professionals to apply the European Alliance of Associations for Rheumatology (EULAR) recommendations for patient education. The lack of time was the most frequently mentioned barrier to including patient education in routine patient care. Although the participants of this study believed that it was beneficial to meet the needs of the patients, they perceived it as additional work. Furthermore, it was concluded

that several tasks, such as patient education evaluation, were not always given priority due to time constraints. Additionally, Nikitara et al. (2021) highlighted the lack of time as one of the most commonly mentioned challenges nurses have when conducting their tasks, specifically for educating patients.

Lack of staff was also included as a barrier. It was found that patient education was frequently not available because no one on staff, such as skilled nurses, had specialized knowledge. According to Ball et al. (2014), due to inadequate staffing levels, the most frequent neglected tasks nurses reported were communicating with patients and educating them. Further, patients also consider that time restrictions and staff shortages were barriers to their adherence to treatment because they felt discouraged to ask questions and try to obtain more knowledge and develop necessary skills (Griva et al., 2012). In addition, patients perceive that nurses working in a haemodialysis unit become exhausted as there are too few to handle the tremendous workload and there is a lack of resources (Stavropoulou et al., 2017).

Numerous research has demonstrated that a lack of nurses is linked to increased mortality rates in patients and an increase in adverse patient outcomes (Diya et al., 2010; Cho et al., 2008). In parallel, governments around the world are attempting to address the challenge of lowering healthcare costs while maintaining the quality and safety of healthcare systems (Ball et al., 2014). In a systematic literature review to study nursing shortages and identify the reasons why nurses decide to leave the profession, it was concluded that nurses are more likely to quit their jobs as a result of feeling overwhelmed from caring for more patients. As well, nurses were too busy to reflect on their actions or talk to their teammates about them (Chan et al., 2013). Interestingly, a participant in our study confirmed the interrelation of patient education

and availability of time. He stated that he had time for patient education because he was working in a small haemodialysis unit in a provincial hospital which had only six dialysis machines.

5.4.3 Limited knowledge

The findings of my research add to the body of evidence that many nurses working in CKD care settings lack basic knowledge about caring for and educating nephrology patients. Participants clearly verbalized their restricted and superficial knowledge to meet the learning needs of the CKD patients. Even very experienced nurses characterised their knowledge as inadequate to teach patients about the disease, their diet, haemodialysis machines, etc. Nurses' lack of knowledge regarding CKD care, including patient education, has been well documented in the literature (Al-Mawsheki, 2016; Hassona et al., 2012; Rastogi et al., 2008; Greer et al., 2012; Plantinga et al., 2010; Bhan et al., 2010). Nobahar and Tamadon (2016) found that focus should be on nurses' basic knowledge as part of the qualities and skills they must possess in order to deliver quality patient care.

The results of my study are in line with the findings of Greer et al. (2012) who implied that lack of adequate knowledge or skills is one on the main obstacles to educating patients about CKD and related therapies. In addition, concerns about emotionally exhausting patients, time restrictions for treatment sessions, a lack of reimbursement for CKD education, and a lack of educational tools were also highlighted as obstacles.

In the study by Matthews and Trenoweth (2015), nurses highlighted the importance of self-management but some of them seemed not to understand this term fully.

Additionally, they did not give details on how they support patients to self-manage their condition. Likewise, the findings of another study imply that while many nurses may not be familiar with the idea of health literacy, they employed a variety of tactics to make sure their patients understood the information being provided. There were no apparent strategies at the organisational level to educate front-line employees on the concept of health literacy, measure health literacy, or engage groups or the community to improve health literacy. (Nantsupawat et al., 2020)

Patient education evidently results in many benefits for the patients, such as better knowledge, quality of life, and self-care, as well as fewer readmissions to the hospital and better medication compliance (van Driel et al., 2016; Casmir et al., 2014). Once individuals are made aware about CKD, they may adopt a healthy lifestyle that reduces the risk of morbidity and mortality. (Wright Nunes et al., 2016). Although education benefits patients, the nursing personnel, and health organisations (Bastable, 2017), nurses do not feel competent enough to be successful educators and need support to do so (Sherman, 2016). Educating patients efficiently entails knowledge and skills. Our respondents attributed their limited knowledge of patient education to their lack of preparation during their studies but also to the absence of a specialty nephrology programme. These findings concur with the literature, supporting that nurses can improve their educational capabilities with proper education and training (London, 2016; Sherman, 2016). Nurses' ability to educate efficiently can optimise patients' knowledge, skills, self-care management competencies, and power to make informed choices (London, 2016; Falvo, 2011). Patient education is perceived as a practice that necessitates nurses to actively involve patients in order to meet their specific learning

needs. Even though implementing effective and efficient patient education activities is difficult in busy healthcare settings, it is possible (Flanders, 2018).

5.4.4 Nurse-doctor boundaries

One of the primary challenges confronting healthcare organisations is how to ensure the continuous provision of high standards and safe care of patients in a dynamic multiprofessional environment. Care is provided by a variety of people and groups from various professions, all of whom share a strong awareness of their respective identities, relative status differences, and boundaries within and between the various professions. These people and groups all have unique cultures, identities, educational backgrounds, objectives, bonuses, and incentives (Morgan & Ogbonna, 2008; Drinka & Clark, 2000). In addition to being aware of these disparities and boundaries, health professionals also view developing, upholding, and defending them as an integral part of their daily work lives (Nancarrow & Borthwick, 2005). Hence, professional identities and boundaries have a big impact on how people interact with counterparts in their discipline and in other disciplines, which has an impact on the treatment that patients experience.

Our findings revealed that doctors coerce nurses to abstain from patient education and remain at the perimeters of physical treatment. Our respondents emphasised that although nurses may be knowledgeable about patient education, they do not have the authority to do so because, where their professional jurisdiction stops, the doctors' jurisdiction begins. This is corroborated by several studies highlighting the constraints of nurses' autonomy due to their traditionally subordinate role to physicians, which is connected to poor cooperation and nurses' uneven positions in the working community (AllahBakhshian et al., 2017; Traynor et al., 2010). The lack of respect for or disregard

for nurses' knowledge and competence (Abdolmaleki et al., 2019; Farrell et al., 2017; Stewart et al., 2004), and related inequalities in their positions within the workplace, including nurses' subordination to doctors (Wang et al., 2011), have long been evident.

It was obvious from the findings of my research that nurses hesitated to step out of the doctor/nurse relationship, indicating no clarity between the nurses' and doctors' responsibilities. In addition, they seemed to be reluctant or even terrified to cross any boundaries even though patient education has long been considered a mandatory and independent nursing role that meaningfully impacts patients' health and quality of life. In order to counter this, senior leadership of healthcare organisations should encourage nurses to be equal members of care teams. The clinical autonomy of staff nurses who offer direct patient care, according to Oshodi et al. (2019), refers to their capacity to go beyond accepted practice and make decisions on the individual patients' treatment. Nurses' independence in the era of decision-making could result in remarkable nursing outcomes (AllahBakhshian et al., 2017; Burke et al., 2018) and higher work quality (Boamah et al., 2018).

Based on the aforementioned literature outcomes, we could draw the conclusion that nurse leaders should establish and uphold workplaces where nurses are aware of their expectations and responsibilities, which do not alter despite the circumstances. Additionally useful are permanent plans for nurses' professional development and clear job descriptions for nurses (Pursio et al., 2021). A safe work environment, a welcoming and tranquil culture, good team spirit without disagreements or taunting, and well-established unit protocols to follow are reported to improve nurses' autonomy (Georgiou et al., 2017; Farrell et al., 2017).

5.5 Difficult patients

Patients diagnosed as non-compliant are always stigmatized when they are described as being recalcitrant, deviant, manipulative, failures, cheats, and rule- breakers, among other epithets (Playle & Keeley, 1998). The term “difficult patient” is encompassing a negative attitude solely toward the patient. According to Duxbury (2000), difficult patients are those who make nurses feel frustrated, uncomfortable, or ineffective. Nurses often use the term “difficult” to describe a range of non-compliant behaviours that patients demonstrate, such as self-harm, and aggressive, demanding, attention-seeking, dependent, splitting, deceptive, manipulative, and disinhibited behaviours (Sharrock & Happell, 2001). These behaviours are mainly associated with some level of refusal to accept and nonadherence to nursing care (Brunero et al., 2001). Macdonald (2003) reported that nurses inappropriately label patients, which can lead to a global view of the patient that compromises care.

5.5.1 Self-neglect

It was reported in my interviews that some patients give up on themselves and made it apparent that it was their own responsibility that they had progressed to the point of end-stage renal disease and required renal replacement treatment. It was evident that nurses felt that patients who have a chronic ailment, such as diabetes mellitus, high blood pressure, or any other condition that caused chronic kidney failure, should be directly responsible According to the evidence, the participants found that these patients' current health difficulties were attributable to their own negligence, which resulted in inadequate management of their diabetes mellitus, failure to control their blood pressure, or any other health issue.

As defined by societal norms, self-neglect is the incompetence or unwillingness to meet one's own essential needs (Lauder, 2001). According to a widespread definition in the literature, self-neglect is the inability to meet one's own basic needs or behave in a way that threatens that person's self-care (Dong et al., 2009). Poor hygiene, home degradation, hoarding, poor nutrition, social withdrawal, service rejection, not taking medication, endangerment behaviours, a lack of shame, and other characteristics are frequently listed as signs of self-neglect (Gibbons et al., 2006)

Practitioners frequently observe it in relation to conditions of aging, such as frailty, which are marked by a person's losses in the social, psychological, and physical realms. Adult Protective Services (APS), a national agency tasked with looking into abuse, neglect, and exploitation of vulnerable persons, get reports of self-neglect most frequently (Dyer et al., 2007). Corresponding to other research, older individuals who self-neglect have a death rate that is 1.5 times higher than adults who do not self-neglect (Dong et al., 2009). Furthermore, those who self-neglect has a death rate that is up to six times higher after one year and they are fifteen times more likely to die (Dong & Simon, 2013).

For a number of reasons, depression is a particularly salient risk factor for self-neglect. First, research has demonstrated that depression is an independent risk factor for a range of actions that could indicate self-neglect, such as dietary indiscretion and non-adherence to medication (DiMatteo et al., 2000). A type of depression that includes executive dysfunction, the capacity to organize and sequence tasks, is linked to activities of daily living (ADL) impairment that is not proportional to the severity of mood disorder (Alexopoulos, 2003). This is so remarkable considering that about half of the populations of two countries, 133 million Americans and 16 million Canadians, live

with at least one chronic condition, and one in four experience limitations on daily activities as a result (Towle & Godolphin, 2011). When a chronic condition, such as chronic kidney failure, is diagnosed, people are faced with a number of responsibilities that are important for both physical and psychological adjustment. For the patient to manage the symptoms of the illness or cope with the demands of treatment, accepting the disease, learning new skills, and making modifications to daily routines are more than necessary.

5.5.2 Negative to instructions & learning

Given that CKD is a chronic disease, the patients are generally treated with long-term regimens including renal replacement therapies, medications, diet, fluid restriction, physical management, etc. To successfully manage their illness, avoid and control acute and chronic consequences, and improve their quality of life, CKD patients must continuously engage in self-care (Song, 2000). Self-care is frequently difficult because it calls for patients to maintain strict self-control for the rest of their lives. (Choi & Choe, 2007). The term self-care refers to a broad concept that incorporates treatment adherence as well as more proactive self-care actions; poor treatment adherence is viewed as a limited form of passive self-care (Kim & Cho, 2021). Treatment adherence refers to the treatment recommendations made by a health professional, and it is critical to all CKD patients' health management. It includes the replacement kidney treatment, including fluid and dietary restrictions, and taking medicines (Denhaerynck et al., 2007).

However, the findings of my research highlighted that a part of CKD patients do not adhere to certain advice and instructions from nurses. It was supported that patients do not want any instructions or further information because they claim to already know

everything, and in certain cases they react by using strong language. One participant referred to her experience when she was trying to inform one of her patients about fluid and food restriction. The patient actually challenged the nurse by saying, “I don’t drink water”. That caused the nurse to characterise her as a “stubborn woman”. Certainly, these behaviours point out patients’ strong negative attitudes to listen and follow detailed information or orders, and they generally show an unwillingness to accept and adhere to treatment.

Adherence discrepancy is brought on by a number of intricate behavioural traits of patients, such as their health beliefs, self-efficacy, unfavourable nurse–patient relationship, and therapy acceptance (Smyth et al., 2015; Vélez-Vélez & Bosch, 2016; Elena & Alvarez, 2014). The important correlation between CKD patients’ acceptance and treatment adherence is clear in the literature that supports the idea that patients who accept the diagnosis and treatment suggestions tend to adhere to them more closely (Agustina et al., 2019). When patients are unable to alter the situation and lessen their dependence on the treatment, they accept the treatment and their condition. The patients typically move on and embrace their new situation by obeying the advice of the healthcare professionals (Mok et al., 2004).

A factor that contributes to patients’ unwillingness to follow instructions and adhere to treatment is the inability of CKD patients to acquire and comprehend fundamental information related to their health condition. A literature review implied that 9% to 32% of CKD patients may have limited health literacy (Fraser et al., 2013), which contributes to poor patient self-management (Lai et al., 2013). Health literacy is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information needed to make appropriate health decisions”

(Health Resources and Services Administration, 2019). Moreover, the burden of their disease, in addition to severe symptoms or functional impairment caused by other health conditions that lead to frequent fatigue and chronic pain, has a negative impact on patients' willingness to learn and follow instructions (Burnier et al., 2015).

5.5.3 Denying reality

My findings revealed that nurses report a number of patients do not accept their health status and consequent treatment, and, as a result, they close into themselves. Acceptance can help a person cope with unavoidable negative events that occur by maintaining their psychological wellbeing and ability to act. It is the ability to face reality even when it does not align with one's expectations or desires and the readiness to deal with it in any case (Nakamura & Orth, 2005). Carver et al. (1993) asserted that such people "make every effort to stay engaged with the important goals that give structure to their lives" (p. 387). It is expected that, when patients accept their illness, they will modify their life goals to more realistic ones by incorporating this challenging life event (Nakamura & Orth, 2005). Chronic illnesses are viewed as life events that bring a person's psychological balance down, and acceptance is essential to reestablishing that balance. Patients with chronic pain and fatigue report higher levels of depressive moods and decreased mental health related quality of life (MHQL) when they refuse to accept their medical condition and employ an assimilative coping technique. In the CKD population, adaptation strategy is linked to compliance (Christensen & Ehlers, 2002), and avoidant coping has been linked to mortality in individuals with end-stage renal disease (Wolf & Mori, 2009). In a cross-sectional questionnaire study by Poppe et al. (2013), it was found that acceptance was correlated with improved physical and mental health quality of life in a group of CKD

patients. A crucial goal in the treatment of CKD patients is the improvement of health quality of life (HQL) and it is considered to be dependent on adaptive coping which includes cognitive and behavioural efforts to manage stressful conditions or associated emotional distress (Holahan et al., 2017). Undoubtedly, CKD is a complicated, progressive condition that forces patients to constantly adapt to changes in medications, treatment plans, and behavioural patterns while becoming more and more dependent on medical technology and their surroundings. Acceptance of the disease and flexibility in rearranging their life are prerequisites for adjusting well to these evolving treatment modalities.

5.5.4 Being angry

These findings add evidence to the literature highlighting that nurses are one category of employees who face the risk of confronting verbal or physical aggression in their workplace (Bentley et al., 2014; Pazvantoglu, et al., 2011). Aggression, an intrinsic, deeply emotional force, is difficult to be defined, as it is inherently context dependent (Sapolsky, 2017). Based on certain disciplines, aggression can be categorised as an offensive or defensive force in biology science, impulsive or premeditated in the study of crime and criminal behaviour, and reactive or spontaneous, emotional, or instrumental in behavioural psychology (Sapolsky, 2017). Rippon (2000) suggested a definition that includes: (a) intent (behaviour intended to harm another living being); (b) expression (physical or verbal, emotional or psychological, active, or passive); and (c) emotional state (it can happen along with emotions such as anger, or with no emotion). Aggression could be a socially acceptable, adaptive behaviour. For instance, patients might demonstrate aggressiveness by defending their rights. The aggressive behaviour in this instance might not violate another person's boundaries,

rules, or standards (Vandecasteele et al., 2015). Another type of aggression takes place when patients physically attack, verbally insult, and threaten healthcare professionals (McKenna, 2004). Worldwide, 60% of nurses report having encountered verbal or non-physical aggression, and 30% have experienced physical violence (Spector et al., 2014). All healthcare settings are impacted, despite the fact that the majority of aggressive incidents occur in mental health departments, as well as in accident and emergency departments (Edward et al., 2014).

Patient aggression has a detrimental effect on staff morale, the effectiveness of healthcare organisations as a whole, and the quality of patient care. It is evident that it lowers the standard of patient care because it disrupts unit operations, results in treatment errors, creates delays in task completion, and lengthens patient wait periods (Roche et al., 2010; Farrell et al., 2006). Furthermore, aggression decreases job satisfaction and motivation among nurses and may cause stress in addition to a rise in staff turnover and early retirement from the nursing field (Powell et al., 2014).

The respondents expressed that anger, irritation, and aggressiveness of their CKD patients are common behaviours, which is confirmed by the relevant literature. According to Jones (2008), disruptive, violent, and aggressive behaviour by patients and occasionally by their family members is becoming a serious issue in some haemodialysis units. Sedgewick (2005) surveyed nephrology nurses in the United Kingdom (UK) and reported that 80% of participants experienced some sort of violence or aggressiveness at work over twelve months. Waiting for treatment, travelling time and cost, poor communication with nursing staff, feeling no active participation or control of their treatment, and mental health issues have been identified as main causes of CKD patients' aggression (Burns & Smyth, 2011). According to Kurella et

al. (2006), the prevalence of cognitive impairment and dementia is greater in individuals with end-stage renal disease than it is in the general population.

Interestingly, one of our study participants blamed such patients' behaviour on nurse management, since they actually allow patients to behave in an indiscipline and aggressive manner. Nurse managers are essential for creating supportive, safe, and low-aggression workplaces (Heckemann et al. 2017; Farrell et al., 2014). However, research findings indicate that nurse managers may underreport or overlook patient aggression and staff protection in order to prioritise customer courtesy or to maintain a positive public image (Renker et al., 2015; Wolf et al, 2014).

5.6 Nurses' defensive behaviour

The findings of this study clearly showed that nurses who have been confronted with difficult patients and stressful situations frequently exhibit defensive behaviours in an attempt to prevent emotional overload and exhaustion. Nurses' protective behaviours involved maintaining a distance and displaying disinterest. Smith and Hart (1994) explained how nurses refer to patients as "difficult" when their behaviour makes it difficult for them to maintain emotional control, whereas Sheldon et al. (2006) clarified that negative feelings might make communication difficult between a nurse and a patient.

Menzies (1960) first studied the high level of stress in hospitals and supported that anxiety is connected to primitive concerns aroused in the nurse by contact with seriously ill patients. That study elaborated on defensive techniques that nurses could employ to cope with anxiety while providing care. The first recommended technique is

to “split up the nurse–patient relationship”. It is supported that the main cause of anxiety for nurses is the relation with the patient. The closer nurses get to their patients emotionally, the more likely they are to experience anxiety. In order to afford themselves some protection from the anxiety, they perform a limited number of tasks, repeatedly, and have limited contact with the patient. Menzies implied that feelings of anxiety are the fundamental roots of distorted or alienated relationships at work.

Khalil (2009) examined violence in nursing using a qualitative approach. The questionnaire used asked respondents to share experiences of specific incidents of violence within the nursing profession, especially in the context of “good” and “difficult” patients. It was found that “good” patients were rewarded with tender loving care although difficult patients were ignored or the interventions they needed were deliberately delayed. Although most nurses provided the most appropriate nursing interventions for the patients irrespective of their behaviour, time pressure and nursing staff shortage made them more likely to categorise the patients into “good” and “difficult”, in order to protect themselves from traumatic encounters with “difficult patients”.

In addition, Michaelsen (2012) studied nurses’ relationships with difficult patients and identified three different strategies of nurses behavioural and emotional reactions: “persuasion”, “compromise”, and “avoidance”. The persuasion strategy was defined by nurses’ beliefs that patients would accept advice and directions and their efforts to motivate the patients to comply. This could be accomplished in a variety of ways, from offering advice to making threats. The compromise strategy was characterised by the nurse finding a compromise between using persuasion and avoidance. The avoidance strategy was defined as the nurse keeping the patient at a greater emotional distance

by withdrawing either physically or psychologically. The avoidance strategy resulted in nurses not recognising important social and health problems of some patients, and some nurses who used it expressing fear of losing contact with their emotional lives.

Ross et al.'s (2009) findings highlighted that nurses working in haemodialysis units are at risk of experiencing a sense of failure and powerlessness as the patients' mental or physical health deteriorates, or they may become frustrated with non-compliant or aggressive patients. The researchers argued that it is difficult to manage a patient who may be aggressive. The inability to cope with this stressor can cause nurses to become critical of themselves. In the long-term, having to cope with stressors impacts nurses' psychological wellbeing, social functioning, somatic health, and causes illness. Ross et al. (2009) supported that the coping technique of distancing is not usually chosen by nurses, and an assumption can be made that the majority of nurses do not minimize an event or detach themselves from work-related stressors.

5.7 A framework for CKD nurses' roles development

In general, professional nurses are held accountable for their autonomous patient assessment, care planning, implementation of interventions, and evaluation in order to provide the most effective holistic care possible and restore health. This requires good knowledge and the necessary skills. Nurses working with people with chronic disorders, such as chronic kidney failure, need even more specialised knowledge and competences to satisfactorily respond to the multifaceted needs of these people and their families. Hence, nurses delivering care to people with chronic kidney disease must be appropriately prepared and supported to develop the various roles demanded.

Based on the results of the present study, a framework for the development of CKD nurses' roles is displayed in Figure 3. In spite of significant international efforts to address kidney failure, many CKD patients are still receiving insufficient care, as this thesis has explained throughout. This is mostly due to the lack of CKD nurses' preparation and the fact that the majority of research concentrated mainly on experiences and perceptions of CKD patients as well as the parameters of kidney failure as a disease. Nurses' impact and related influencing factors have not been studied to the proper extent. The framework's objectives are to ensure that patients with chronic kidney failure will receive high-quality care from nurses. This approach will facilitate nurses to expand their roles and provide sophisticated CKD care. Nurses equipped with deep specialist knowledge and competency in the necessary roles will prevent patients from deteriorating from disease and acquiring further complications, and they will essentially help patients to develop health self-management skills and improve their quality of life.

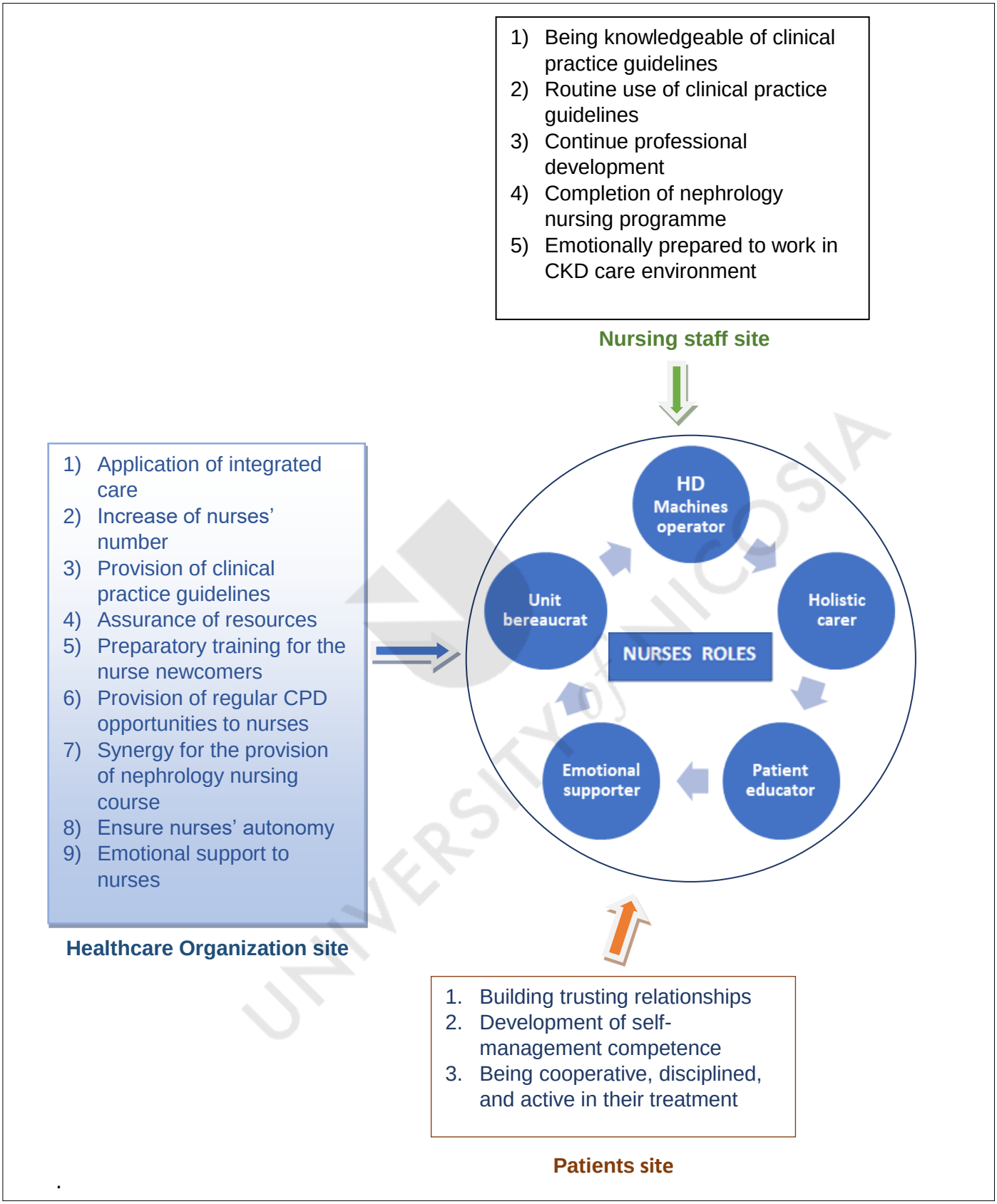
As per our understanding, this framework represents the only one that relates directly to the nurses' roles in providing care for CKD patients and that offers a context for the thorough and effective coordination of care in the different nephrology care settings.

I identified many factors that nurses confront when attempting to provide the most optimal care to CKD patients, barriers that impede them from maximising their roles and fulfilling their duties. The healthcare organisation, nurses, and patients are the main sources from which these obstacles emerge. The framework for developing CKD nurses' roles offers a structure that gets over these obstacles and promotes constructive interactions between individuals with kidney failure, nurses, and healthcare organisations while coordinating and optimising CKD care delivery. I

appreciate that this framework's impact will be attainable and quantifiable over the long run, because it necessitates numerous, foundational adjustments as well as a number of endeavours. However, I firmly believe that putting this approach into practice will produce the best results that will help both organizations and patients, as well as increase nurses' job satisfaction.

This framework was developed based on the perspectives of nurses working in CKD care settings about their roles, especially regarding the operation of haemodialysis machines, provision of holistic care, education and emotional support of CKD patients, and their bureaucratic role. However, a number of factors have been shown to preclude nurses from fulfilling these roles. Therefore, if these barriers are addressed using the three categories mentioned before, they could be removed, and CKD care could be optimised. The roles of nurses in providing CKD care are described here, along with information on how each role can be supported by the healthcare organisation, the nurses, and the patients

Figure 3: A framework for CKD nurses' roles development



5.7.1 Roles of nurses

1. The roles of nurses in CKD care should be specified at the national and worldwide levels.
2. Nurses who are assigned to work in haemodialysis units should be systematically trained to operate the different programs of the technologically advanced haemodialysis machines so they can make the wisest use of them for the best possible performance of a patient's haemodialysis session.
3. A uniform approach to CKD patient education, which can be customised for individual patients' requirements, should be implemented to ensure that patients receive comprehensive and specific education.
4. The role of emotional supporter should be encouraged and developed within the CKD nursing workforce so they can adequately respond to their patients' evident distress.
5. Development of nephrology nursing leaders should be attained to ensure the provision of services to holistically cover all aspects of patient care and that patients' and nurses' best interests are addressed within the scope of the organisation.
6. The role of nephrology nurses within a multidisciplinary team of other CKD care professionals should be facilitated to ensure the healthcare procedures and actions are coordinated and integrated, contributing to the optimum well-being of patients and finding areas for development.

5.7.2 Healthcare organisation support

Healthcare organisations should create the conditions that will favour the development of dynamic roles of nurses to ensure the provision of high standards of nursing care to kidney patients. Healthcare organisations should:

1. Ensure the development and implementation of an integrated care policy to improve patient care through better coordination of services delivered, to enhance healthcare experience, quality, and efficiency, as well as to reduce health inequities.
2. Increase and maintain the number of people in the nursing workforce to allow nurses to fully meet the multidimensional needs of CKD patients and enhance patient safety along with the effectiveness of CKD care services.
3. Make clinical practice guidelines available to nursing practices, which are based on current best evidence and an assessment of the advantages and hazards of alternative care options, to optimize patient care and eliminate variation in practice.
4. Guarantee the availability and accessibility of necessary resources to make certain that all nursing care goals are fulfilled.
5. Develop an appropriate preparatory training model for newcomer nurses in the CKD care settings to allow them to smoothly adjust to a new demanding field of work and prevent distress and other difficult emotional situations.
6. Ensure the provision of regular CPD opportunities to bring CKD nurses up to date on the latest procedures, technology, and evidence to enable them to provide higher standards of care to patients.
7. Contribute to the provision of a specialty nephrology course to prepare registered nurses to provide advanced, holistic care to CKD patients in a variety of settings.

Additionally, it should encourage CKD nurses' career development and leadership growth.

8. Provide clear organisational rules, specific policies, and supportive management to ensure and enhance nurses' autonomy and to maintain their work satisfaction, occupational commitment, to be psychologically empowered, and to promote work retention.
9. Provide continuous emotional support to nurses to deal with challenging working circumstances, such as time pressure, unhelpful management, and difficult patients.

5.7.3 Nursing staff self-support

1. Clinical practice guidelines from professional nephrology bodies should be included and given emphasis in undergraduate nursing education programmes to prepare nurses to identify, critically evaluate, implement, and adapt them to their local CKD care settings.
2. Nurses should systematically use clinical practice guidelines in their daily routine to provide the most appropriate nursing care for specific CKD clinical situations and enhance the standards of care as well as patient outcomes.
3. Nurses should chase every opportunity for their professional development to broaden their knowledge base, improve their skills, and keep themselves up to date.
4. Nurses should attempt to complete any specialty nephrology nursing programme available to attain special knowledge and develop specific skills for the provision and management of high standard CKD care.

5. Nurses should emotionally prepare themselves to work in very demanding settings that have a lot of pressure and many difficult patients to prevent distress and burnout as well as to safeguard that they provide the necessary holistic care to CKD patients.

5.7.4 Patients

1. Building trusting relationships between patients and nurses will facilitate patients' adherence to treatment regimens, prevent the deterioration of their health conditions and enrich the nursing care outcomes.
2. CKD patients should be encouraged and reinforced to develop the necessary body of knowledge and skills to self-manage their own health condition.
3. Difficult CKD patients should be holistically supported by the whole interprofessional healthcare team with compassion and understanding, instead of being criticized and kept at a distance, dismissed, ignored, and isolated.

5.8 Impact of the study

The objectives of our study have been established in light of the fact that CKD patients frequently receive subpar care, which results in recurrent hospital admissions for other detrimental effects on their health. Additionally, it was clear from the literature that, despite their significance, nurses' roles in CKD care have received minimal attention.

As a result, I undertook an IPA study to comprehend how nurses, based on their experience, perceive their roles in CKD care and what factors affect these roles. This

enabled me to create a framework for developing CKD nurses' roles and overcoming the constraints that impede these roles.

I am confident that my proposed framework will contribute to the best possible nursing care for CKD patients. This framework could be quantitatively assessed to see how effective nurses' roles are. This, in turn, has the potential to enhance patient care outcomes by preventing their health from deteriorating and reducing the possibilities of various complications. This will be accomplished by expanding nurses' roles and improving their knowledge and skills in nephrology care.

Moreover, this framework explicitly refers to the barriers that healthcare organisations impose to nurses developing competences and, consequently, CKD care. This information can be used by authorities to improve the existing situation. As a result, if the policymakers comprehend and implement this approach, I believe that persons with chronic kidney failure, as well as nurses and organisations, will benefit in both the short and long terms. If nurses provide better practice in the CKD care settings, patients' stress and complications will be reduced, saving governments financially, while persons with CKD will have better health outcomes.

To identify and understand the roles of nurses in CKD care, I interviewed nurses working in all related care settings, including nephrology wards, haemodialysis and peritoneal dialysis units, and the transplantation center. This research found that nurses lack clearly defined roles. This study adds a significant new dimension to a corpus of research that, in addition to having scarce information on nurses' roles in providing nephrology nursing services, is devoid of proof. I advocated using this framework to clarify nurses' tasks in CKD care, which will help nurses understand what they need to perform.

Interesting results were identified in terms of the facilitators and barriers to CKD nurses' functions. Notably, the respondents were mostly concerned with the barriers, and they merely mentioned one facilitator, which is the years of experience. Several barriers were discovered and classified into three categories: healthcare organisation, nurse aspects, and patient aspects. Crucially, the data show that all of these factors might have a detrimental impact on the quality of treatment and care for all CKD patients. The data provided in this study indicated an important strength of the CDK nursing care delivered, and my approach provides recommendations for overcoming these hurdles at each of the three levels.

This research also adds to the research technique. The literature review found a lack of studies on CKD nursing roles, and the majority of the research differed between nations. The study is unique in that it is the first to employ a phenomenological approach to investigate the experiences of nurses regarding every one of their roles in CKD care. As a result, additional qualitative research into nurses' roles in providing care to nephrology patients is advised.

The study's findings will be disseminated in a number of different ways. This will be accomplished on a local level by presenting the findings at conferences throughout Cyprus, where the study was carried out, as well as at international conferences. In Cyprus, three presentations have indeed taken place. The study's findings will be disseminated further by publishing in peer-reviewed journals, which will support greater distribution of the study's findings within the area of nursing.

5.9 Recommendations for future research

The CKD care offered by nurses in Cyprus was examined in this study. As a result, it is imperative that future evaluation of CKD nursing care be performed in other countries with similar or different care structures.

Even though it would be further than the scope of this study, future studies should evaluate other aspects of CKD care services, such as provision of care by doctors or other health professionals involved, in order to have additional data that more comprehensively illustrate CKD care in general.

Furthermore, this study discovered a number of issues regarding the roles of nurses in CKD care and what affects them that deserve further investigation. Future research might be conducted, for example, on the factors affecting nurses' professional development, work environment related to nursing practice factors, etc. Additional qualitative study could also be conducted to validate our findings and investigate this data further.

5.10 Study's strengths and limitations

The study provides a transparent and complete description of the rationale and content of the framework developed. Each level of the framework was built on the perspectives and experiences of the participants, along with data from the literature. The framework itself is a strength because it would be reasonably simple to utilize it for further research. The overall number of participants, 16 in all, is considered a sufficient rate for qualitative approaches, particularly the interpretive phenomenology approach.

Furthermore, in order to achieve data saturation, I adopted methodologies that ensure the depth of the findings and enhance their generalisability.

Some limitations in this interpretative phenomenological research study have been acknowledged. First, only a sample of nurses working in CKD care settings in a small country with a distinct healthcare system was used and presented here, in a Cyprus context. Therefore, it is difficult to compare this study with information from other countries, lowering the generalisability of the research results.

Second, the respondents may have been affected by the fact that I was well known in the local nephrology nursing society, since I was the only specialised nephrology nurse in Cyprus. Respondents may not have felt comfortable enough expressing their actual feelings and thoughts related to the experience studied. They may have responded in a such a way to impress or shape their answers to fit what I supposedly wanted. Consequently, the likely response bias would also limit the generalisability of the results.

Third, I elected to include perspectives from the nurse-clinician's point of view and attempted to describe how they interpreted their experiences in relation to various roles and affecting factors in CKD care field. I recognise that nurses' perspectives do not represent other important stakeholders' viewpoints. However, the nurses' perceptions in these unique instances contributed to my understanding of their lived experiences in working as nurses and providing care to people with chronic kidney failure

5.11 Critical evaluation of the research process

The study as a whole succeeds to address the research objectives. The adopted Interpretative Phenomenological Approach resulted in a data analysis method, the most possible objective. The study provides clear and extensive information about each step of the research process, including the design of the research methodology, data collection techniques, data analysis, and the ethics approval processes. I maintained careful records of what facilitated or impeded the process at each phase. Nevertheless, I encountered certain challenges during the process of gathering information. For example, it was difficult to schedule interviews, and the absence of enthusiasm in the research study among some Cypriot nurses was discouraging.

Throughout this work, I gained valuable insight and experience in the research sector. It was difficult to conduct the study with nurses who were inexperienced in research. This study, on the other hand, has allowed me to comprehend the complexities of the research process as well as the difficulties of partnering with different nursing staff in unfamiliar facilities. This crucial, hands-on experience will be transferable to other research initiatives where the researcher will be engaged.

5.12 Dissemination of the study's results

Two Posters have been presented in Postgraduate Research Conferences at the University of Surrey, one with the results of the literature review, and another one with the study's preliminary results.

The literature review was presented in a Pancyprian Nephrology Nursing conference.

The study's results have recently been presented and discussed in a Nephrology Nursing Specialty programme class.

An acceptance of article for publication has been received. The title is "Nurses' roles in the care of patients with CKD and factors affecting these roles: a mixed methods systematic literature review".

More articles are prepared for publications

The study's results will be disseminated to the Ministry of Health in Cyprus, the Council of Nursing and Midwifery of Cyprus, the National Organisation for Nursing and Midwifery in the Republic of Cyprus (CyNMA), as well as to Pancypriot Association of Friends of Kidney Patients and Pancypriot Organization of Kidney Diseases.

Additionally, the study's results will be disseminated to the four university programmes of nursing, running in Cyprus.

5.13 Conclusion

The literature clearly reveals that nurses' roles in the care settings of people with chronic kidney failure are not clear and consistent. As a result, it is critical to clarify and support these roles to ensure that people with CKD receive competent, holistic, and high standards of care, although this is currently understudied. My research shows that nurses' contributions in CKD care are essential and wide-ranging. A number of roles that could be developed to improve nursing care have been highlighted.

Also, various barriers to nurses' involvement in CKD care have been discovered and classified into three levels. Being competent to remove these constraints in a realistic manner could improve nurses' roles and, as a result, the quality of care offered. The

outcomes of enhanced care could be evident in local and even international practice, since it could lower the number of patient complications and admissions in the hospitals, increase the patients' well-being and quality of life, and reduce expenditure on CKD care.

Finally, a framework for improving CDK nursing care has been introduced, which included all of the current study's findings. This framework of nurses' roles and affecting factors has significant implications for improving nurses' involvement in CKD care and making proposals to expand these roles, with the potential to lower healthcare costs and increase the quality of care delivered to persons with kidney failure.

CHAPTER 6: CONCLUSION

6.0 Conclusion

The purpose of this study was to investigate the experiences of nurses with CKD patient management. The IPA approach was used to guide the research and analyse the data acquired. The usage of IPA allowed me to comprehend nurses' experiences and make recommendations based on the findings. The study was started because there was a lack of previous studies on nurses' roles in delivering CKD nursing care. The majority of existing research focused on certain single roles in relation to the CKD care context.

The analysis of their experiences revealed a number of key themes. Data analysis of participants' experiences revealed that nurses have multiple roles in CKD care. Their points of view were consistent with earlier research. However, it was clear that these roles differed amongst various work settings. In Cyprus, for example, nurses do not really systematically educate CKD patients, whereas in other countries they do. Further to that, the findings revealed that, while participants recognised a variety of roles, their descriptions of how they perform these roles were ambiguous, and they expressed doubts about their readiness to take on some of these roles. Some of the nurse participants admitted that they did not perform these roles. There is no research on nationally or even internationally agreed nursing duties and responsibilities for CKD care, particularly for nurses who are not prepared.

Another significant result implies a variety of challenges to providing CKD care, some of which are consistent with prior literature. As stated in the discussion chapter (Chapter 5), these findings have been classified into six major themes for the purpose of the current study. "Nurses' roles in CKD care", "Nurse preparation", "Organisational issues", "Barriers to patient education", "Difficult patients", and "Nurses' defensive

behaviour". Nurses' roles included being machine operators, providers of holistic care, unit bureaucrats, patient educators, and emotional supporters. Nurses' preparation referred to the lack of training during the undergraduate studies in addition to the lack of training of newcomers to work in such a demanding field of work. The organisational issues indicated the establishment of rotation systems in the hospitals, the limited availability of continuous professional development opportunities, as well as the questionable nursing autonomy. Patient education is impacted by the shortage of staff and lack of time, the nurses' limited knowledge, and the nurse–doctor boundaries. The theme of difficult patients included people who react negatively to being instructed, educating people, and dealing with angry patients. Lastly, nurses' defensive behaviour referred to nurses' reaction to protect themselves from emotional distress.

By synthesising these findings, a prospective framework for clarifying nurses' roles and supporting them to improve the CKD care has been proposed (Figure 3). This framework is based on the data given above. It reflects the perspectives and experiences of nurses in relation to their roles. Furthermore, three different categories are identified for the optimum implementation of these roles and, consequently, the provision of CKD care: healthcare organisation, nurses, and CKD patients. Moreover, a range of recommendations that can be used internationally have been presented. Despite the fact that this research was carried out in Cyprus, the findings might be applied to other countries that have comparable healthcare settings. Also, several of the outcomes of these investigations confirmed previous research done in other countries with different healthcare systems. However, because chronic kidney disease is a global disease, I believe that international policies and programmes should be

developed to improve not only the treatment of kidney disease in the primary care setting but also in the secondary and even the tertiary care settings.

Finally, with this study, I attempted to enhance people's comprehension of the experiences of nurses delivering care to CKD patients, and I emphasised the necessity of addressing the participants' perspectives, future research in this area is necessary. Future researchers should further explore the particular functions of nurses in CKD care, such as home dialysis, systematic patient education, emotional support, preventative public screening, health promotion activities, etc. An innovative study, for example, might look into nurses' knowledge and skills in providing high standard education to people with chronic kidney disease. Also, the generalisability of these findings might be assessed to see whether they are shared by other nursing staff working in the same field. This study was carried out in Cyprus, but it might be reproduced in countries that have different populations and healthcare systems in place. Furthermore, my proposed approach might be applied and examined for impact in the future. The perspectives of persons with CKD and other stakeholders could be investigated further to learn how they perceive nurses' roles and involvement in such care environments. This will allow researchers to take a more in-depth look at CKD care and suggest a more comprehensive approach to improve the existing situation.

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Appendices

Appendix 1: COREQ (COnsolidated criteria for REporting Qualitative research) checklist

COREQ (COnsolidated criteria for REporting Qualitative research) Checklist

Topic	Item No.	Guide Questions/Description	Reported on Page No.
Domain 1: Research team and reflexivity			
Personal characteristics			
Interviewer/facilitator	1	Which author/s conducted the interview or focus group?	1
Credentials	2	What were the researcher's credentials? E.g. PhD, MD	122
Occupation	3	What was their occupation at the time of the study?	122
Gender	4	Was the researcher male or female?	122
Experience and training	5	What experience or training did the researcher have?	122
Relationship with participants			
Relationship established	6	Was a relationship established prior to study commencement?	N/A
Participant knowledge of the interviewer	7	What did the participants know about the researcher? e.g. personal goals, reasons for doing the research	261, App 4
Interviewer characteristics	8	What characteristics were reported about the inter viewer/facilitator? e.g. Bias, assumptions, reasons and interests in the research topic	N/A
Domain 2: Study design			
Theoretical framework			
Methodological orientation and Theory	9	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	94
Participant selection			
Sampling	10	How were participants selected? e.g. purposive, convenience, consecutive, snowball	103
Method of approach	11	How were participants approached? e.g. face-to-face, telephone, mail, email	104
Sample size	12	How many participants were in the study?	104
Non-participation	13	How many people refused to participate or dropped out? Reasons?	N/A
Setting			
Setting of data collection	14	Where was the data collected? e.g. home, clinic, workplace	106
Presence of non-participants	15	Was anyone else present besides the participants and researchers?	N/A
Description of sample	16	What are the important characteristics of the sample? e.g. demographic data, date	126
Data collection			
Interview guide	17	Were questions, prompts, guides provided by the authors? Was it pilot tested?	263, App
Repeat interviews	18	Were repeat inter views carried out? If yes, how many?	N/A
Audio/visual recording	19	Did the research use audio or visual recording to collect the data?	109
Field notes	20	Were field notes made during and/or after the inter view or focus group?	109
Duration	21	What was the duration of the inter views or focus group?	109
Data saturation	22	Was data saturation discussed?	113
Transcripts returned	23	Were transcripts returned to participants for comment and/or	N/A

Topic	Item No.	Guide Questions/Description	Reported on Page No.
		correction?	
Domain 3: analysis and findings			
Data analysis			
Number of data coders	24	How many data coders coded the data?	111
Description of the coding tree	25	Did authors provide a description of the coding tree?	111
Derivation of themes	26	Were themes identified in advance or derived from the data?	111
Software	27	What software, if applicable, was used to manage the data?	N/A
Participant checking	28	Did participants provide feedback on the findings?	N/A
Reporting			
Quotations presented	29	Were participant quotations presented to illustrate the themes/findings? Was each quotation identified? e.g. participant number	127-170
Data and findings consistent	30	Was there consistency between the data presented and the findings?	126
Clarity of major themes	31	Were major themes clearly presented in the findings?	126 - 209
Clarity of minor themes	32	Is there a description of diverse cases or discussion of minor themes?	126 - 209

Developed from: Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care*. 2007. Volume 19, Number 6: pp. 349 – 357

Appendix 2: The Cyprus National Bioethics Committee letter of approval

THE REPUBLIC OF CYPRUS
CYPRUS NATIONAL BIOETHICS COMMITTEE

Ref.: ΕΕΒΚ ΕΠ 2012.01.114
Tel.: 22809038/039
Fax: 22353878

08th January 2013

Mr. Evangelos Latzourakis
University of Nicosia
P.O.Box 24005
1700 Nicosia

Dear Mr Latzourakis,

Research Project: Registered nurses' knowledge, working in nephrology units in Cyprus hospitals, on caring and educating Chronic Kidney Disease (CKD) patients to self care management

I refer to your letter dated 24th of December 2012 (via email), concerning the above mentioned research project.

2. In accordance with the content of the documents you have submitted (cover letter with description of project, participant information sheet, participant consent form and interview schedule) attached to the above mentioned letter, I have the opinion that your proposed project does not fall within the competence of the Cyprus National Bioethics Committee for bioethical review.

3. We wish you every success in the performance of your research.

Yours sincerely,

Dr. Michael Voniatis
Chairman
Cyprus National Bioethics Committee

Nikou Kranidioti, 2412 Egkomi, Nicosia
Email: cnbc@bioethics.gov.cy *Website:* www.bioethics.gov.cy

Appendix 3: Permission from the Ministry of Health

ΚΥΠΡΙΑΚΗ ΔΗΜΟΚΡΑΤΙΑ
ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ

Αρ. φακ: 5.34.01.7.2Ε
Αρ. τηλ:22605738
Email:igeorgiou@moh.gov.cy

Αρ. Πρωτοκόλλου:0155/2013

7 Νοεμβρίου 2013

Κύριος Ευάγγελος Λαζουράκης
Χέοπος 6
3075 Λεμεσός

Θέμα: Αίτημα για παραχώρηση άδειας διεξαγωγής έρευνας

Έχω οδηγίες να αναφερθώ στο αίτημα σας για παραχώρηση άδειας διεξαγωγής της έρευνας με τίτλο **«Cyprus nurses' perceptions on their role in the care of patient with CKD including the education of these patients to self –manage their condition»** που υποβλήθηκε στην γραμματεία της επιτροπής με ημερομηνία 29/10/2013 και να σας πληροφορήσω ότι η Επιστημονική Επιτροπή Προώθησης Ερευνών του Υπουργείου Υγείας εγκρίνει το αίτημα σας.

Νοείται ότι θα πρέπει να προβείτε σε ενημέρωση των προϊσταμένων των τμημάτων /υπηρεσιών για την διεξαγωγή της σχετικής έρευνας. Επισημαίνεται ότι σε καμία περίπτωση δεν θα πρέπει να διαταράσσεται η ομαλή λειτουργία των τμημάτων όπου θα διεξαχθεί η έρευνα.

Παράκληση όπως σε κατοπινό στάδιο υποβάλετε ενδιάμεση έκθεσης συμπληρώνοντας κατάλληλα το επισυνημμένο έντυπο «Παρακολούθηση Έρευνας από την Επιστημονική Επιτροπή Προώθησης Ερευνών» στο οποίο αναφέρεται η εξέλιξη και το στάδιο στο οποίο βρίσκεται η εργασίας σας.

Επίσης, με την ολοκλήρωση της έρευνας σας θα πρέπει να παραδώσετε στην γραμματεία της επιτροπής τα ακόλουθα:

- Αντίγραφα ολοκληρωμένης έρευνας σε ηλεκτρονική και έντυπη μορφή
- γραπτή συγκατάθεση σας για την Διαχείριση των αποτελεσμάτων της έρευνας από το Υπουργείο Υγείας.
- περίληψη της έρευνας σε συγκεκριμένη μορφή καθώς και τα στοιχεία επικοινωνίας σας τα οποία θα αναρτούνται στην ιστοσελίδα του Υπουργείου Υγείας.

(Ειρήνη Γεώργίου)
Για Αν. Γενική Διευθύντρια
Υπουργείου Υγείας

Κοιν: ΠΛΥ
Αν. Διευθυντή ΙΥ&ΥΔΥ
Διευθυντή Νοσηλευτικών Υπηρεσιών

8/11/13

Υπουργείο Υγείας 1448 Λευκωσία
Τηλ: 22605738 φαξ:22605529 Ιστοσελίδα:http://www.moh.gov.cy

ΚΥΠΡΙΑΚΗ ΔΗΜΟΚΡΑΤΙΑ

ΥΠΟΥΡΓΕΙΟ ΥΓΕΙΑΣ

Αρ. Φακ. : ΥΥ 5.34.01.7.6Ε

Αρ. Πρωτ.: 0155/2013

8 Νοεμβρίου 2013

Βοηθό Προϊστάμενη Νοσηλευτικό Λειτουργό Γενικού Νοσοκομείου Λευκωσίας

Προϊστάμενη Νοσηλευτικό Λειτουργό Γενικού Νοσοκομείου Λεμεσού

Προϊστάμενη Νοσηλευτικό Λειτουργό Γενικού Νοσοκομείου Λάρνακας

Βοηθό Προϊστάμενη Νοσηλευτικό Λειτουργό Γενικού Νοσοκομείου Πάφου

Βοηθό Προϊστάμενη Νοσηλευτικό Λειτουργό Γενικού Νοσοκομείου Αμμοχώστου

Θέμα : Άδεια για διεξαγωγή ερευνών από την Επιστημονική Επιτροπή προώθησης Ερευνών του Υπουργείου Υγείας

Αναφέρομαι στο πιο πάνω θέμα για να σας ενημερώσω πως η Επιστημονική Επιτροπή Προώθησης Ερευνών του Υπουργείου Υγείας έχει παραχωρήσει σχετική άδεια στο κο Ευάγγελο Λαζουράκη για διεξαγωγή έρευνας με τίτλο **«Cypriot nurses' perceptions on their role in the care of patient with CKD including the education of these patients to self-manage their condition».**

Στη διάθεση σας για οποιεσδήποτε διευκρινήσεις.

(Χριστίνα Ιωαννίδου Ευσταθίου)

για Διευθυντή Νοσηλευτικών Υπηρεσιών

Κοιν. κο Ευάγγελο Λαζουράκη

Appendix 4: Joanna Briggs Institute's Qualitative Assessment and Review Instruments

JBI Critical Appraisal Checklist for Qualitative Research

Reviewer_____
Date_____

Author_____Year_____ Record Number_____

	Yes	No	Unclear	Not applicable
1. Is there congruity between the stated philosophical perspective and the research methodology?	☐	☐	☐	☐
2. Is there congruity between the research methodology and the research question or objectives?	☐	☐	☐	☐
3. Is there congruity between the research methodology and the methods used to collect data?	☐	☐	☐	☐
4. Is there congruity between the research methodology and the representation and analysis of data?	☐	☐	☐	☐
5. Is there congruity between the research methodology and the interpretation of results?	☐	☐	☐	☐
6. Is there a statement locating the researcher culturally or theoretically?	☐	☐	☐	☐
7. Is the influence of the researcher on the research, and vice- versa, addressed?	☐	☐	☐	☐
8. Are participants, and their voices, adequately represented?	☐	☐	☐	☐
9. Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	☐	☐	☐	☐
10. Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

JBI Critical Appraisal Checklist for analytical cross-sectional studies

Reviewer_____
Date_____

Author_____Year_____ Record Number_____

	Yes	No	Unclear	Not applicable
1. Were the criteria for inclusion in the sample clearly defined?	☐	☐	☐	☐
2. Were the study subjects and the setting described in detail?	☐	☐	☐	☐
3. Was the exposure measured in a valid and reliable way?	☐	☐	☐	☐
4. Were objective, standard criteria used for measurement of the condition?	☐	☐	☐	☐
5. Were confounding factors identified?	☐	☐	☐	☐
6. Were strategies to deal with confounding factors stated?	☐	☐	☐	☐
7. Were the outcomes measured in a valid and reliable way?	☐	☐	☐	☐
8. Was appropriate statistical analysis used?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

_____
_____
_____
_____
_____

JBI Critical Appraisal Checklist for studies reporting prevalence data

Reviewer_____
Date_____

Author_____Year_____ Record Number_____

	Yes	No	Unclear	Not applicable
11. Was the sample frame appropriate to address the target population?	☐	☐	☐	☐
12. Were study participants sampled in an appropriate way?	☐	☐	☐	☐
13. Was the sample size adequate?	☐	☐	☐	☐
14. Were the study subjects and the setting described in detail?	☐	☐	☐	☐
15. Was the data analysis conducted with sufficient coverage of the identified sample?	☐	☐	☐	☐
16. Were valid methods used for the identification of the condition?	☐	☐	☐	☐
17. Was the condition measured in a standard, reliable way for all participants?	☐	☐	☐	☐
18. Was there appropriate statistical analysis?	☐	☐	☐	☐
19. Was the response rate adequate, and if not, was the low response rate managed appropriately?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

_____
_____
_____
_____

JBI Critical Appraisal Checklist for quasi-experimental studies

Reviewer_____
Date_____

Author_____Year_____ Record Number_____

	Yes	No	Unclear	Not applicable
1. Is it clear in the study what is the 'cause' and what is the 'effect' (i.e. there is no confusion about which variable comes first)?	☐	☐	☐	☐
2. Were the participants included in any comparisons similar?	☐	☐	☐	☐
3. Were the participants included in any comparisons receiving similar treatment/care, other than the exposure or intervention of interest?	☐	☐	☐	☐
4. Was there a control group?	☐	☐	☐	☐
5. Were there multiple measurements of the outcome both pre and post the intervention/exposure?	☐	☐	☐	☐
6. Was follow up complete and if not, were differences between groups in terms of their follow up adequately described and analyzed?	☐	☐	☐	☐
7. Were the outcomes of participants included in any comparisons measured in the same way?	☐	☐	☐	☐
8. Were outcomes measured in a reliable way?	☐	☐	☐	☐
9. Was appropriate statistical analysis used?	☐	☐	☐	☐

Overall appraisal: Include ☐ Exclude ☐ Seek further info ☐

Comments (Including reason for exclusion)

_____
_____
_____
_____
_____

Appendix 5: Participant Information Sheet (PIS)

Participant Information Sheet (PIS)

(Date: .....and version 1.0)

PROJECT TITLE

"Cypriot nurses' perceptions on their role in the care of patients with CKD including the education of these patients to self-manage their condition: An Interpretive Phenomenological Study"

Introduction

I am a PhD student, and my research interest is the care of patients with chronic kidney disease (CKD)

I would like to invite you to take part in my research project about Cypriot nurses' perceptions on their role in the care of patients with CKD including the education of these patients to self-manage their condition.

Before you decide to participate you need to understand why the research is being undertaken and what it will involve for you. Please take the time to read the following information carefully. Talk to others about the study if you wish.

What is the purpose of the study?

The study will look at Cypriot registered nurses' experiences regarding their role in the care of patients with CKD including the education of patients to self-manage their condition and how well prepared they feel for this role. Additionally, information will be gathered regarding the factors that might influence the extent to which patients with CKD are educated by nurses to self-manage their condition.

The findings will illustrate gaps in our knowledge with regards to the preparation of Cypriot nurses to care and educate patients with CKD to self-manage their condition and the factors that need to be considered in order to improve nurses' preparation for their role. The findings will also indicate any necessary enhancements to nurse undergraduate programmes and also

would help to the development of programmes to address nurses' continuing education needs and thus to improve the CKD patient care provided.

Why have I been invited to take part in the study?

Because you have been working in the nephrology care field of the public hospitals, your perspective and experiences will be very valuable for the purpose of this study.

Do I have to take part?

No, you do not have to participate. There will be no adverse consequences in terms of employment status if you decide not to participate. You can also withdraw from the study at any time without needing to justify your decision and without prejudice.

What will happen to me if I take part?

You will be asked to participate in an interview which will last up 60 minutes in which you will provide information regarding the above topic by answering open questions. The interviews will be held at the University of Nicosia or in a convenient place for you and the date and time will be according to your preference. The interview will be tape-recorded, and all information obtained during the study will be confidential and stored safely.

What will I have to do?

If you would like to take part, please contact me at:

Evangelos Latzourakis
University of Nicosia,
46 Makedonitissas Avenue Nicosia,
22841745
Email: latzourakis.e@unic.ac.cy

If you agree to participate you will be asked to sign a consent form.

What are the possible disadvantages or risks of taking part?

There is not actually any possible disadvantage or risk for you if you take part in this research project.

What are the possible benefits of taking part?

- To have the opportunity to share your views and perceptions about the care and education provided to patients with CKD.
- To take an active role in the improvement of care and education provided to patients with CKD.
    - To contribute towards the advancement of nursing science.

What if there is a problem?

If you have any complaints concerning this study, please contact my main Research Supervisor:

Dr Molly Courtenay
Professor of Clinical Practice: Prescribing and Medicines Management,
Director of Studies - PhD/MPhil Programme,
Division of Health and Social Care
Faculty of Health & Medical Sciences
University of Surrey
Guildford GU2 7TE

Will my taking part in the study be kept confidential?

Yes. All of the information you give will be anonymised so that those reading reports from the research will not know who has contributed to it.

Data will be stored securely in accordance with the UK Data Protection Act 1998.

Who has reviewed the project?

The study has been reviewed and received a favourable opinion from the University of Surrey Ethics Committee and the Cyprus National Bioethics Committee.

Thank you for taking the time to read this Information Sheet.

Appendix 6: Participant Consent

Participant Consent Form

Cypriot nurses' perceptions on their role in the care of patients with CKD including the education of these patients to self-manage their condition: An Interpretive Phenomenological Study

Name of Principal Investigator: Evangelos Latzourakis

Please tick

- I the undersigned voluntarily agree to take part in the study on the day indicated by the researcher. ☐
- I have read and understood the Information Sheet (version...) provided on..... (date) ☐
- I have been given a full explanation by the researcher of the nature, purpose, location and likely duration of the study, and of what I will be expected to do. ☐
- I consent to my personal data, as outlined in the accompanying information sheet, being used for this study and other research. I understand that all personal data relating to volunteers is held and processed in the strictest confidence, and in accordance with the UK Data Protection Act (1998). ☐
- I have been given the opportunity to ask questions on all aspects of the study and have understood the advice and information given as a result. ☐
- I understand that I am free to withdraw from the study at any time without needing to justify my decision and without prejudice, or to decline to answer any particular questions in the study. ☐
- I confirm that I have read and understood the above and freely consent to participating in this study. I have been given adequate time to consider my participation and agree to provide information to the researchers under the conditions of confidentiality set out on the information sheet. ☐

Name of volunteer (BLOCK CAPITALS) .....

Signed.....

Date.....

Name of researcher (BLOCK CAPITALS) .....

Signed.....

Date.....

Appendix 7: Interview Schedule

Interview Schedule

During the interviews with participant nurses, the following topics will be covered:

- Nurses' perceptions of their roles in the care of patients with CKD
- Nurses' experiences of providing care to patients with CKD
- Nurses' understanding of their patient educational role in CKD care
- Nurses' experiences of delivering patient education to people with CKD for self-care management
- Nurses' views about factors affecting their professional roles in the care of patients with CKD