CULTURAL PRACTICES AND DIET ADHERENCE OF PATIENTS LIVING ON HAEMODIALYSIS

by

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“It always seems impossible until it’s done.”

– Nelson Mandela

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ABSTRACT

Poor adherence to their prescribed diet, medications and treatment contributes to increased mortality and morbidity in patients with end-stage renal disease. These patients must change their diet when receiving dialysis treatment, but cultural beliefs and practices can affect their adherence to the prescribed diet.

The purpose of this qualitative, descriptive, exploratory study was to improve health education on prescribed diet adherence to patients living on haemodialysis at a haemodialysis unit in eThekwini Municipality. Data from a sample of 20 patients was collected using semi-structured interviews and analysed using qualitative content analysis.

The findings revealed that haemodialysis patients’ prescribed diet adherence was influenced by cultural and religious views, and by family support. Food availability, patients’ geographical location and patients’ financial means hindered their adherence to their prescribed diet. A multi-disciplinary health care team including nurses, should be sensitive to patients’ different cultural beliefs and practices when providing health education.

KEY TERMS: Adherence; chronic kidney disease; culture; religious practices; diet; end-stage kidney disease; haemodialysis; health education.

ABSTRACT– isiZulu

Ukungabambeleli endleleni emisiwe yokudla, amakhambi nasekwelashweni kunomthelela ekwandiseni izimpawu zesifo sezinso esingapheli (ESRD) futhi kwandisa isibalo sabantu ababulawa yilesisifo. Iziguli ezinalesisifo zidinga ukushitsha indlela yokuphila, iziphuzo kanye nokulandela indlela emisiwe yokudla kakhulukazi mabe ngaphansi kokwelashwa ngokuhlanzwa kwegazi ngomshini (dialysis). Izinkolelo zamasiko nendlela zokuphila ezihambisana namasiko kwenze imfundiso nge ezempilo maqondana nendlela emisiwe yokudla yaba lukhuni.

Inhloso yalolucwaningo bekuwukwandisa ulwazi nemfundiso ngezempilo mayelana nokulandela indlela emisiwe yokudla kwiziguli izithola ukulashwa ngokuhlanzwa kwegazi ngomshini (haemodialysis) esikhungweni esikuMasipala weTheku.

Kusetshenziwe indlela yokwenza ucwaningo esezingeni elifanele, Imininingwano eqoqiwe eqembini (sample) leziguli ezingamashumi amabili (20) ezithola ukwelashwange haemodialyisis. Imininigwane iqoqwe kusetshenziswa izingxoxo ezihleliwe. Imigomo elawula ukuhlaziya ilandeliwe yonke ngenkathi kwenziwe lolucwaningo.

Lolucwaningo luveze ukuthi indlela yokudla emisiwe yeziguli ezikwi dialysis iphazanyiswa imobono yamasiko, inkolo kanye nokusekelwa nokuzimbandakanya kwamalungu omndeni. Izinselelo ezinjengokutholakala, indawo isiguli esihlala kuyo nezinkinga zemali zivimbela ukubambelela endleleni emisiwe yokudla. Abasebenzi bezempilo kumele banakekele indima edlalwa izinkolelo namasiko uma befundisa ngezempilo ezigulini eziphethwe izinso.

Amagama Abalulekile: Ukubambelela, Isifo sezinso esingapheli, Isiko, Imikhuba yenkolo, indlela yokudla emisiwe, Isifo sezinso esisekupheleni, ukuhlanzwa kwegazi ngomshini(haemodialysisi), Imfundiso ngezempilo.

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ABBREVIATIONS

ACEI	Angiotensin Converting Enzyme Inhibitor
AKI	Acute Kidney Injury
APD	Automated Peritoneal Dialysis
BMI	Body Mass Index
CAPD	Continuous Ambulatory Peritoneal Dialysis
CCr	Creatinine Clearance Rate
CDC	Centers for Disease Control and Prevention
CKD	Chronic Kidney Disease
CRRT	Continuous Renal Replacement Therapy
CVVH	Continuous Veno-Venous Haemofiltration
CVVHD	Continuous Veno-Venous Haemodialysis
CVVHDF	Continuous Veno-Venous Haemodiafiltration
ESKD	End-Stage Kidney Disease
ESRD	End-Stage Renal Disease
ESRF	End-Stage Renal Failure
GFR	Glomerular Filtration Rate
Hb	Haemoglobin
HD	Haemodialysis
IHD	Intermittent Haemodialysis
KDIGO	Kidney Disease Improving Global Outcomes

NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases
PD	Peritoneal Dialysis
RRT	Renal Replacement Therapies
SCUF	Slow Continuous Ultrafiltration
SLEDD	Slow Low Efficient Daily Dialysis
STATS-SA	Statistics South Africa
US	United States

CHAPTER 1
ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Thirty million, or 15%, of adults in the United States (US) are estimated to have chronic kidney disease (CKD) (Centers for Disease Control and Prevention [CDC] 2017). Over 8 million Thai people were diagnosed with CKD in 2014, and two million people developed end-stage renal disease (ESRD) (Yodchai, Dunning, Savage & Hutchinson 2017:359). In the sub-Saharan region the figures are similar to the US, with the prevalence of CKD estimated at 13.4% (Etheredge & Fabian 2017:2). In South Africa, the prevalence of CKD is 14.3% (Ameh, Cilliers & Okpechi 2016:1). CKD is a global public health problem, and within the global population approximately 8–10% of adults display some grade of kidney damage, as a result of which millions die. CKD can advance to ESRD, and is a significant risk factor for cardiovascular disease and death.

Patients with ESRD usually undergo dialysis or require renal transplantation. Dialysis is indicated when patients' kidney function has declined to such an extent that their creatinine and urea levels (waste products) could be life threatening. Dialysis is an attempt to normalise these levels. Dialysis applies the principle of diffusion of solutes across a semi-permeable membrane based on a concentration gradient (Farlex.com 2017, sv "dialysis"). Haemodialysis uses an extracorporeal circuit machine and a filter, to filter waste products and normalise fluid balance (Nisha, Srinivasa, Thanga & Jagatha 2017:1); however, haemodialysis is only a method of supportive management, and patients will still require renal transplantation.

Apart from undergoing dialysis treatment, patients need to adjust their lifestyle, and these adjustments include using chronic medication and altering their diet (CDC 2017). New eating behaviours need to be adopted, sometimes irrespective of the patient's ethnic and cultural food preferences, in order to prevent short- and long-term systemic complications that can affect practically all organ systems, particularly in the late stages of ESRD. Patients who suffer from ESRD need to decrease their potassium, sodium and protein intake, as their kidneys are unable to clear and maintain acceptable levels of these elements. Mitch and Remuzzi (2016:3) explain that foods high in phosphate content, such as protein-rich foods, and a high salt diet impede the ability of medication such as angiotensin-converting enzyme (ACE) inhibitors to suppress the progression of CKD. Mitch and Remuzzi (2016:25) report that formulating the optimal diet for patients with CKD is difficult, because of the interrelationships among different nutrients. When the diet plan includes reduced dietary protein, there needs to be an increase in the intake of other nutrients to maintain the calorie requirements. Rahimlu (2017:230) found that the mortality rate for patients with CKD increases with an increased body mass index (BMI), irrespective of whether these patients are receiving dialysis. BMI uses height and weight to assess a person's nutritional status. Beto, Schury and Bansal (2016:21) explain that early mortality is an important concern in patients starting dialysis.

1.2 BACKGROUND TO THE RESEARCH PROBLEM

Mortality remains high among dialysis patients, despite technological advancements in the dialysis field (Hing, Wong, Chin, Ping, Peng & Kun 2016:438). The mortality rate of American CKD patients is reported to be 14% (NIDDK, 2016). It is estimated that 5 million South Africans older than 20 years suffer from CKD (Meyers 2015:232). Causes of CKD are closely related to non-communicable diseases such as diabetes mellitus and coronary artery disease. According to STATS-SA (2015), non-communicable diseases constitute about 60% of deaths in South Africa. Patients with CKD eventually develop renal failure, which necessitates dialysis treatment, multiple drug therapy or a renal transplant.

A person's choice of diet, which is an integral part of health behaviour, is influenced by biological, psychological, and socio-cultural factors. For example, certain cultures do not believe in a well-balanced diet, with snacks in between meals; instead, they choose to have two meals, one in the morning and one in the evening, without any fruits or vegetables in between. It is suggested that race and cultural beliefs play an important role in the diet-health relationship (Maneze, DiGiacomo, Salamonson, Descallar & Davidson 2015:6). Culture and religion are intertwined (Beyers 2017:9), as religion is often associated with certain cultural practices. For example, Muslims only consume food that is prepared according to their beliefs (Erian & Phillips 2017), and have to follow a set of dietary laws that permit and prohibit certain foods (Bonne & Verbeke 2008:113). Food selection is often influenced by socio-economic factors; for example, members of the poorer sectors of the population may include offal (liver, spleen, lung, heart and kidney) in their diet (Stanley 2009:27). However, offal is not recommended for patients suffering from ESRD, due to its high phosphate content. Mayoral and Rincon (2014:1366) find that patients receiving dialysis treatment for ESRD experience challenges in maintaining and adhering to a prescribed diet, and cultural beliefs appear to be an important factor in these challenges. Providing culturally sensitive education to patients is therefore essential while rendering care. Instructions and materials that are in line with the patient's beliefs, values, and experiences need to be incorporated into educational programmes to increase the likelihood of dietary adherence (Skelton, Waterman, Davis, Peipert & Fish 2015:81).

1.3 STATEMENT OF THE RESEARCH PROBLEM

Poor adherence to a prescribed diet, medications, and treatment in CKD patients has been estimated to vary from between 20% to 70%, which contributes to increased mortality and morbidity (Beto et al 2016:1). Non-adherence to a prescribed diet and fluid prescriptions could result in hypertension, muscle cramps (related to electrolyte imbalances), pulmonary oedema, and death (Khalil & Darawad 2014:95). Beto et al (2016:5) further state that in ESRD, sodium intake is squarely related to inter-dialytic weight gain in dialysis patients. Fluid accumulation in any stage of CKD exacerbates the risk for co-morbidities, such as uncontrolled hypertension, left ventricular hypertrophy, pulmonary oedema and vascular disease. Therefore, health education about the prescribed diet and fluid restrictions should be given each time a patient receives haemodialysis. Furthermore, as part of caring for ESRD patients and of a renal work-up for the chronic renal programme, health education is mandatory. Nurses play an important role in delivering this health education, as they continuously care for the patients during their haemodialysis treatment and thus form part of a multi-disciplinary team, which also includes dieticians, social workers, psychologists and clinicians. Nurses are in an ideal position to deliver health education to patients.

Health behaviour is described as the actions people take to sustain their health, which includes making certain dietary choices (Cockerham 2014). Understanding the factors that influence health behaviours is essential for optimising health and wellbeing. Factors such as cultural beliefs, traditions, languages and religious practices determine an individual's health behaviour (Maneze et al 2015:7). Nurses provide health education to ESRD patients receiving haemodialysis treatment, and this education includes information on a prescribed diet. Steddon, Ashman, Chesser and Cunningham (2014:303) suggest that health care workers should render good dietary intake advice; however, this advice needs to deliver information and practical strategies. For example, patients who do not understand the impact of salt restriction will find controlling thirst and fluid intake extremely difficult. Skelton et al (2015:79) further suggest that there are certain strategies to improve education for patients with ESRD, and that these include making the information simple for patients with low health literacy to understand by using visual aids and introducing a few topics at a time, or even by using comic books. It is suggested that health care workers should provide culturally sensitive education for patients, by showing care and empathy and also by acknowledging patients' cultural needs and communication norms.

According to Levy, Brown, Daley and Lawrence (2012:385), communication is a major factor when it comes to dietary advice. Communicating in a foreign language about meals is quite difficult, as factors such as food preparation and eating habits need to be communicated effectively. Levy et al (2012:385) advise that the following should be considered when communicating with patients regarding their prescribed diet: there should be an interpreter available if needed; there should also be written information that has been translated into the patient's language; and audio-taped information could also be made accessible to the patient. The use of food models and pictures could also help to enhance communication.

The researcher, a professional nurse working in a dialysis unit at a tertiary hospital in eThekwini district, noticed during informal discussions that those patients who presented with increased potassium, phosphate and urea levels have specific cultural orientations. Professional nurses in this unit are responsible for managing patients while they receive their haemodialysis treatment, and their responsibilities include physically assessing the patients and reviewing their latest blood markers. Blood markers, such as electrolytes, urea and creatinine, indicate how the patient needs to be dialysed and which health education would be appropriate to normalise the blood markers. Since a patient's prescribed diet is a significant predictor of blood markers, this phenomenon prompted the researcher to ask the following research question:

What are the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis?

1.4 RESEARCH PURPOSE

The purpose of this study was to improve the health education on a prescribed diet adherence given to patients living on haemodialysis, at a haemodialysis unit in the eThekwini Metropolitan Municipality.

1.5 RESEARCH OBJECTIVES

The objectives of the study were:

- To explore the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis.
- To describe the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis.

1.6 SETTING OF THE STUDY

The research was conducted in the haemodialysis clinic of an 846-bed tertiary academic hospital in eThekwini Metropolitan Municipality. This clinic manages approximately 90–100 adult and paediatric patients per six-day week, as recorded in its admission lists. Patients are referred by the district hospital and usually use public transport to travel to the clinic. All patients have different treatment regimes, which are prescribed according to their blood results, and they are dialysed accordingly. These dialysis sessions could last for 3–4 hours. During their dialysis treatments the patients are provided with health education regarding a prescribed diet and medication by members of the multi-disciplinary team, which may include dieticians, social workers, psychologists and clinicians.

1.7 SIGNIFICANCE OF THE STUDY

This study may contribute to a better understanding of the complexities that affect ESRD patients’ adherence to dietary advice. It could assist health practitioners to provide relevant health education to ESRD patients, who may improve their health behaviour if they understand that certain cultural practices may be harmful. Furthermore, ESRD patients’ adherence to dietary advice could decrease their mortality and morbidity rates, and thus lessen the financial burden on the government. The study’s findings on the adherence to a prescribed diet of patients living on haemodialysis could be included in health care-related policies and be incorporated into the patient-care practices of health care workers such as nurses, dieticians, psychologists, social workers and clinicians.

1.8 DEFINITIONS OF KEY CONCEPTS

The key concepts used in this study are defined below.

1.8.1 Adherence

Adherence is the act or quality of sticking to a diet (Gibson & Sainsbury 2017 [2]). In this context, adherence means that patients who are living on haemodialysis are following the prescribed renal diet for kidney failure.

1.8 2 Chronic kidney disease (CKD)

Chronic kidney disease (CKD) can be defined in a variety of ways. The US Preventive Services Task Force defines it as decreased kidney function, with size-adjusted estimated glomerular filtration rate (eGFR/1.73 m2) <60 mL/min, or as kidney damage that persists for at least three months (Daugirdas, Blake & Ing 2015:2). In the context of this study, CKD refers to patients who have been suffering from kidney damage for at least three months and who need to undergo haemodialysis treatment.

1.8.3 Culture

Culture is a learned set of values, beliefs and attitudes common to a group of individuals, a society, an organisation or a profession (Tiran 2012:57). In this study, culture refers to the values, beliefs and attitudes shared by groups of people in accordance with their traditional, religious and ancestral beliefs, and how the beliefs of different cultures influence their lifestyles.

1.8.4 Cultural practices

Cultural practices are described as actions that are repeated or shared with others in a social group that have meaning or significance that goes beyond the immediate goals of action (Miller & Goodnow 1995: 7). Cultural practices in this context refer to those rituals, beliefs and actions that are practised in relation to diet.

1.8.5 Prescribed diet

A prescribed diet refers to the control and intake of certain foods or nutrients as part of the treatment of a medical condition, and is normally prescribed by a clinician or a dietician (Insight Medical Publishing 2020). In this study a prescribed diet (a renal diet) refers to a diet prescribed by clinicians or dieticians to patients who are receiving dialysis treatment. Food high in potassium, phosphate and protein is usually restricted.

1.8.6 End-stage renal disease (ESRD)

End-stage renal disease (ESRD) is also called end-stage kidney disease (ESKD). The kidney of people with ESRD functions below 10% of their normal ability, which may mean they are barely functioning or not functioning at all. ESRD is the fifth stage of the progression of CKD (Stephens 2017, sv “End stage kidney disease”). In the context of this study, ESRD refers to patients who are suffering from kidney damage, whose kidney function is less than 10% of normal kidney function, and who are receiving haemodialysis treatment.

1.8.7 Haemodialysis

Haemodialysis is a type of dialysis therapy that separates and removes excess electrolytes, fluids and toxins from the blood by means of a haemodialyser, and is very efficient in removing solutes (Urden et al 2018:645). In this study, haemodialysis refers to the procedure followed to remove fluid and waste products, such as urea and electrolytes, from the blood.

1.8.8 Health education

According to the World Health Organization (WHO) (2019), health education refers to a variety of learning experiences that are prepared to assist individuals and communities to improve their health, through increasing their knowledge or influencing their attitudes. In the context of this study, health education refers to a multi-disciplinary team, including nurses educating ESRD patients on the benefits of an appropriate diet and its overall importance in ensuring a positive outcome of their treatment.

1.8.9 Communication

Communication refers to a process by which information is exchanged between individuals through a common system of symbols, signs, or behaviours (Merriam Webster sv ‘communication’ 2020). Communication consists of the person initiating the process (the sender) and the recipient of the information (the receiver) (Setswe, Naudé & Zungu 2013:144). In this study, communication means any symbols, signs, or behaviours used to provide health education by health care workers (the senders) to patients (the receivers) living on haemodialysis.

1.8.10 Health behaviour

Health behaviour is a combination of knowledge, practices, and attitudes that contribute to motivating the actions taken regarding health restoration, improvement and maintenance (Farlex Sv “Heath behaviour” 2020; Garrido 2012). In this study health behaviour refers to the combination of knowledge, practices, and attitudes that contribute to motivating patients living on haemodialysis to act upon their heath in relation to a prescribed diet.

1.8.11 Tertiary academic hospital

In South Africa, tertiary hospitals provide services to regional hospitals. Tertiary hospitals may provide training to health care professionals and generally have 400–800 beds (Department of Health 2012:par 5 (a-f)). In this study the specific tertiary hospital, situated in eThekwini Metropolitan Municipality in KwaZulu-Natal, has 846 beds. It provides services to regional hospitals, and training to health care professionals.

1.9 TEACHING FRAMEWORK FOR CROSS-CULTURAL HEALTH CARE

There are different views on the use and inclusion of theory in qualitative research (Delport, Fouche & Schurink 2011:299). Therefore, the teaching framework for cross-cultural health care was applied after this study’s data analysis to see how it fits into the data, which is discussed in Chapter 4. Berlin and Fowkes (1983:934) propose the LEARN framework, which is a set of guidelines within a framework for teaching diverse cultures. This educational framework assists health care providers in enhancing their communication, increasing their knowledge of cultural issues in medical care, and procuring enhanced patient approval of treatment plans. The LEARN framework is an acronym that represents the following:

L – Listen with sympathy and understanding to the patient’s perception of the problem

E – Explain your perceptions of the problem

A – Acknowledge and discuss the differences and similarities

R – Recommend treatment

N – Negotiate agreement.

1.10 RESEARCH APPROACH

This study followed a qualitative approach. Grove, Burns and Gray (2013:25) explain that a qualitative approach is undertaken to investigate a chosen phenomenon when the researcher is attempting to understand the reality from a perspective of enquiry, rather than to explain it by means of a controlled measurement. In this study, the researcher was interested in understanding the cultural practices of patients following a prescribed renal diet, from their perspective.

1.11 OVERVIEW OF THE RESEARCH DESIGN AND METHODOLOGY

This section will provide a brief overview of the research design and methodology. A detailed discussion will follow in Chapter 3. Table 1.1 displays a summary of the research design and methodology

TABLE 1.1 SUMMARY OF RESEARCH DESIGN AND METHODOLOGY

RESEARCH OBJECTIVES	• To explore the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis. • To describe the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis.
RESEARCH QUESTION	What are the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis?
RESEARCH DESIGN	The study adopted a qualitative, exploratory and descriptive research design.
POPULATION	The population for this study was 95 patients from different cultural orientations and above 18 years of age, who were receiving haemodialysis treatment on a regular basis at a selected clinical facility in the eThekwini Metropolitan Municipality.
SAMPLING METHOD	Purposive and convenience sampling were used because specific information regarding a prescribed diet of patients receiving haemodialysis was needed from patients who were available.
DATA COLLECTION	Semi-structured interviews were used to gather data.
DATA ANALYSIS	Qualitative content analysis was used.
TRUSTWORTHINESS	Lincoln and Guba’s (1985) augmented model of the five criteria (credibility, dependability, conformability, transferability and authenticity) was applied to ensure the trustworthiness of the data.

1.11.1 Research design

A research design is defined by Creswell (2013:41) as a consolidated plan to obtain answers to research questions. The researcher adopted a qualitative, exploratory, descriptive research design for the study. Exploratory research focuses on discovering the breadth and scope of a phenomenon that a researcher is trying to understand, while descriptive research will give a detailed account of the information gathered about the phenomenon, for example behaviour, opinions, and events (Bless, Higson-Smith & Sithole 2013:57).

1.11.2 Population

Brink, Van der Walt and Van Rensburg (2012:131) refer to the population as the entire group of persons or objects that interest the researcher. The population for this study was 95 patients from different cultural orientations who were above 18 years of age, and who were receiving haemodialysis treatment on a regular basis at a selected clinical facility in the eThekwini Metropolitan Municipality.

1.11.3 Sample and sampling criteria

Grove et al (2013:708) explain a sample as a subset of the population that is selected for a study. Purposive and convenience sampling were used because specific information regarding the prescribed diet of patients who were living on haemodialysis was needed. Twenty participants that met the inclusion criteria, and who were available at the time of the data collection, participated.

1.11.4 Data collection

Data collection has to be implemented in an organised, accurate way that is appropriate for both the research purpose and the objectives of the study (Grove et al 2013:691). Semi-structured interviews were used to gather data. Polit and Beck (2012:742) describe a semi-structured interview as an interview in which the researcher has a list of topics to cover, rather than a specific series of questions to ask. In this instance, the researcher was interested in the cultural practices of the patients living on haemodialysis.

1.11.5 Data analysis

Qualitative data analysis is a non-numerical method that is used to understand observations that determine essential meanings and patterns. It is a process of examining and interpreting data in order to elicit meaning and develop empirical knowledge (Babbie 2014:403; Grove et al 2013:279). Qualitative content analysis was used to analyse the data. This method is broadly used in health studies, and describes a set of analytical approaches that vary from intuitive to interpretative and systematic analysis. The aim of content analysis is to gain knowledge and understanding of the phenomenon under study (Hsieh &Shannon 2014:1277).

1.12 RIGOUR

Rigour refers to the quality of the study, and includes discipline-specific adherence to detail and accuracy (Grove, Burns & Gray 2013:36). Rigour was ensured through adhering to the procedures required for a qualitative approach and through reporting in detail on the findings.

1.13 TRUSTWORTHINESS

Lincoln and Guba’s (1985) augmented model of the five criteria used to ensure the rigour of qualitative research (credibility, transferability, dependability, confirmability, and authenticity) was applied. The criteria are discussed in detail in Chapter 3.

1.14 ETHICAL CONSIDERATIONS

Polit and Beck (2014:380) define ethics as a network of moral values that is affected by the degree to which the research procedures adhere to professional, legal, and social obligations to the study participants. Ethical research principles (autonomy, beneficence, non-maleficence and justice) were adhered to throughout the study. Ethical considerations will be discussed in detail in Chapter 3.

1.15 SCOPE OF THE STUDY

The study is confined to adults undergoing treatment in a dialysis unit in a public hospital in the eThekwini Metropolitan Municipality. Therefore, the findings will only be applicable to similar settings. In addition, patients who are living on haemodialysis treatment shared their specific cultural practices and perspectives regarding adhering to a specific diet, and these may not be widely representative.

1.16 STRUCTURE OF THE DISSERTATION

The report of this study is divided into five chapters.

Chapter 1: Orientation to the study

In Chapter 1, the background to the research problem was highlighted. The research problem, and the purpose and objectives of the research were outlined, and the significance of the study was discussed. The chapter provided definitions of key concepts, and briefly introduced Berlin and Fowkes's (1983) LEARN framework, which was selected as the educational framework for cross-cultural health care. The qualitative research approach and exploratory, descriptive research design were briefly discussed, along with other aspects of the research methodology, such as the sample and sampling technique, the data collection methods, and the chosen method of data analysis. A brief description of the ethical considerations and the scope of the study concluded the chapter.

Chapter 2: Literature review

Chapter 2 discusses and clarifies the concepts related to the topic, and presents an overview of renal failure, renal failure treatment, and cultural influences on the prescribed diet.

Chapter 3: Research design and methodology

Chapter 3 discusses the study's research design and research methodology in detail. The chapter discusses the qualitative, descriptive nature of the research, as well as the exploratory research design. It also describes the population and the sampling strategy, the data collection procedures, and the method of content analysis used to analyse the data. Measures taken to ensure the rigour of the research, and the ethical considerations taken into account during the research process, are also discussed.

Chapter 4: Findings and discussion

Chapter 4 presents and discusses the research findings, focusing on themes derived from the content analysis.

Chapter 5: Conclusions, recommendations and limitations of the study

Chapter 5 provides an overview of the study and then presents conclusions derived from the study's findings, and associated recommendations. The limitations of the study are acknowledged, followed by the concluding remarks.

1.17 CONCLUSION

In this chapter an orientation to the study has been provided, covering the research problem, research purpose and objectives of the study. Key concepts were defined, and Berlin and Fowkes's (1983) LEARN framework was briefly introduced. An overview of the research design and methodology was provided, and the ethical considerations discussed. The following chapter discusses and clarifies the concepts related to the topic, and presents an overview of renal failure, renal failure treatment, and cultural influences on diet.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter provided a comprehensive introduction to the nature of the study and its methodology. This chapter discusses and clarifies specific concepts related to the study. The intention is to establish an understanding of the patients who are living on dialysis. The aspects to be discussed are: renal failure, renal failure treatment (including types of renal replacement therapy, the renal diet, pharmacological treatment, and blood investigations conducted on patients receiving dialysis), and cultural influences on diet.

2.2 RENAL FAILURE

There are two types of renal failure that humans can experience: acute kidney injury (AKI) and CKD (De & Roy 2017:24). AKI is a sudden loss of kidney function that can occur in as little as seven days. Walker, Colledge, Ralston and Penman (2014:499) clarify that AKI, also known as acute renal failure, is an abrupt and usually reversible loss of renal function, which develops over days or weeks and is often flanked by a decrease in urine volume. According to Steddon et al (2014:121), the Kidney Disease Improving Global Outcomes (KDIGO) guidelines state that the term AKD applies not only to those patients with AKI, but also to those with a glomerular filtration rate (GFR) (the total amount of blood filtered by the kidney per minute) of less than 60mL/min for less than three months.

Walker et al (2014:479) classify the causes of AKI into the following three categories:

- **Pre-renal failure**: The main problem in prerenal failure is renal ischaemia, which involves impaired perfusion to the kidney due to poor blood supply to the kidney. Conditions such as cardiac failure, sepsis, blood loss, dehydration and vascular occlusion could contribute to pre-renal failure.

- **Intra-renal failure**: In the case of intra-renal failure, the kidney itself is damaged. This is often associated with trauma to the kidney. The conditions that can cause damage to the kidney itself are glomerulonephritis, small-vessel vasculitis, acute tubular necrosis and interstitial nephritis caused by drugs, toxins, prolonged hypotension, inflammatory disease, and/or infection.
- **Post-renal failure**: Post-renal failure is caused by urinary obstruction affecting the ureters, bladder (bladder stones) or the urethra. This is often caused by urethral stricture or valves, urinary calculi, retroperitoneal fibrosis, benign prostatic enlargement, prostate cancer, cervical cancer, or meatal stenosis/phimosis. These conditions obstruct the flow through the urinary tract, causing a back pressure, which results in urine accumulation in the kidney.

As opposed to AKI, CKD occurs progressively, with kidney function decreasing gradually over several months or years (De & Roy 2017:25). Kumar and Clark (2012:615) indicate that CKD implies protracted (more than three months) and commonly progressive impairment in renal function. In most cases the disease process cannot be reversed, except in cases of immunosuppressive therapy treating systemic vasculitis, urinary tract obstruction, Goodpasture’s syndrome, advanced hypertension, and narrowed renal arteries causing CKD.

The rate of deterioration in renal function can be reduced with different renal replacement therapies (RRT). These could be continuous renal replacement therapy (CRRT) modalities, such as slow continuous ultrafiltration (SCUF), continuous veno-venous haemodialysis (CVVHD), continuous veno-venous haemofiltration (CVVH), continuous veno-venous haemodiafiltration (CVVHDF), and slow low-efficiency daily dialysis (SLEDD); or they could involve intermittent dialysis, haemodialysis (HD), peritoneal dialysis (PD), or renal transplantation.

At first CKD may manifest with abnormal blood markers, but later on the loss of the excretory, metabolic and endocrine functions of the kidney lead to the clinical symptoms and signs of renal failure, referred to as uraemia (Walker et al 2014:483). Signs and symptoms of uraemia include loss of appetite, nausea and vomiting, cognitive changes, shortness of breath, anaemia, proteinuria, weakness, insomnia, hypertension, and oedema (Webster, Nagler, Morton & Masson 2017:1242). However, many patients with slow progressive kidney disease are asymptomatic until their GFR falls below 30mL/min/1.73 m2. Due to the build-up of waste products and excessive fluid in the body, CKD can manifest itself with the following signs and symptoms: weakness, lethargy, swelling, shortness of breath and confusion. End-stage renal disease or failure (ESRD or ESRF) is when death is imminent without RRT (CKD stage five). De and Roy (2017:14) indicate that there is a worldwide epidemic of kidney disease, and that the number of people affected is rising at an alarming rate. Currently 10% of the world population is affected by kidney-related diseases, and it is estimated that 5 million South Africans older than 20 years suffer from CKD (Meyers 2015:232).

According to Walker et al (2014:484), the causes of CKD are grouped into seven categories:

- **Congenital and inherited**: In this instance the patient is either born with renal failure or it begins to manifest later in life. These conditions include polycystic kidney disease and Alport’s syndrome.
- **Renovascular disease**: This is caused by damage to the vessel supplying blood to the kidney, and is generally caused by atheromatous, an accumulation of plaque in the inner layer of the wall of the artery.
- **Hypertension**: Prolonged, untreated hypertension causes damage to and narrowing of the arteries supplying the kidney, causing CKD. The kidneys’ hormonal response causes a further narrowing of the arteries and impaired blood supply to the kidneys.
- **Glomerular disease**: Scarring or swelling of the nephron or glomerulus caused by infection or toxic drugs can occur; however, IgA nephropathy (Berger’s disease) is the most common cause, resulting in a build-up of immunoglobulin antibodies in the kidney.
- **Interstitial diseases**: Interstitial disease is caused due to inflammation of the kidney and can cause mild to severe kidney problems. Interstitial disease is often drug-induced.

- **Systemic inflammatory diseases**: Chronic inflammatory diseases, such as systemic lupus erythematosus and vasculitis, have a debilitating effect on the kidney.
- **Diabetes mellitus**: Walker et al (2014:484) indicate that diabetes mellitus is the cause of renal failure in 20–40% of cases.

De and Roy (2017:24–25) outline the five stages of CKD. These stages are based on the severity of kidney dysfunction, and every stage is defined by precise GFR values as follows:

Stage 1: Mild reduction in GFR (90 mL/min)

Stage 2: Further reduction of GFR (60–89 mL/min)

Stage 3: Moderate reduction of GFR (30–59 mL/min)

Stage 4: Severe GFR reduction (15–29 mL/min)

Stage 5: ESRD has developed with GFR<15 mL/min.

Haemodialysis will be commenced when the patient is in stage 5 renal failure.

2.3 RENAL FAILURE TREATMENT

Renal failure treatment consists of RRT, diet modifications, and pharmacological treatment.

2.3.1 Types of renal replacement therapies

There are two types of RRT: intermittent haemodialysis (IHD) and continuous renal replacement therapy (CRRT) (Urden, Stacy & Lough 2018:644). Walker et al (2014:509–510) indicate that the goal of CRRT is to substitute the excretory role of the kidney, and to sustain the standard electrolyte concentrations and fluid balance. CRRT might be needed on an interim basis in patients with AKI. As a result of the different RRT modalities available, the quality of life of a number of patients with ESRD has been improved, through various types of dialysis and through transplantation.

CRRT techniques have different goals for each therapy modality, and the patient's goal must be determined prior to choosing a renal replacement therapy. The decision on which CRRT modality should be used is determined by the patient's haemodynamic stability, catabolic state, and whether the fundamental goal of the removal of excess urea, potassium and fluid is realised (Urden et al 2018:648). CRRT in patients diagnosed with AKI is usually chosen when haemodynamic instability impedes the use of general three-to-four-hour intermittent dialysis (García-Miguel 2012:373). The modalities include the following:

2.3.1.1 Slow continuous ultrafiltration (SCUF)

In SCUF, water and solute clearance is convective; however, the amount of ultrafiltrate created is small (generally 2–4ml/minute). SCUF is generally used to remove fluid and not for solute clearance. SCUF is an infrequent choice, because it entails both arterial and venous access for correct functioning, and the circuit is more likely to thrombose than any other CRRT modality (Urden et al 2018:649).

2.3.1.2 Continuous veno-venous haemodialysis (CVVHD)

During CVVHD, dialysate is pumped counter current to the flow of blood through the dialysate compartment of the dialyzer. Small molecules are removed through the process of diffusion. Diffusion is the movement of molecules from a space of higher concentration to a space of lower concentration across a semi-permeable membrane. A negative pressure for fluid removal is created by setting the dialysate outflow higher than the inflow. Higher dialysate flow improves clearance. CVVHD is indicated for patients who may require larger fluid volume removal, for severe uraemia, and for patients who are resistant to diuretics or have severe acid-base imbalances (Urden et al 2018:649).

2.3.1.3 Continuous veno-venous haemofiltration (CVVH)

CVVH is used to remove waste products, and access entails convection and ultrafiltration. Convection is the movement of solutes under pressure through a membrane along with the movement of water. Small and middle molecular weight substances are removed during convection, including cytokines. During haemofiltration, ultrafiltration from the filter replaced by replacement fluid is infused into blood lines. Replacement fluid normally consists of electrolytes and a bicarbonate buffer. CVVH is indicated when the primary aim is removal of significant volumes of fluid and solutes (Urden et al 2018:649).

2.3.1.4 Continuous veno-venous haemodiafiltration (CVVHDF)

CVVHDF involves the removal of waste products and water by convection, diffusion and ultrafiltration. It is a combination of CVVH and CVVHD. Small and medium molecular weight solutes are removed by replacement fluid infused into the bloodlines and dialysate flow across the filter. Convective therapy clears middle molecular weight substances. Diffusive therapy clears small molecular weight substances. CVVHDF is a more efficient type of dialysis, and is indicated to achieve maximum fluid and solute clearance (Urden et al 2018:650).

2.3.1.5 Slow low-efficiency daily dialysis (SLEDD)

SLEDD is a form of RRT, and is run daily for 8 hours or 12 hours. The slow, continuous removal of solute and water provides more haemodynamic stability than a conventional haemodialysis treatment. In Acute kidney disease(AKD) haemodialysis is performed daily; however, should the patient’s condition progress to CKD, the dialysis frequency gradually decreases to three (3) times per week (Urden et al 2018:645).

2.3.1.6 Haemodialysis (HD)

Haemodialysis separates and removes excess electrolytes, fluids and toxins from the blood by means of a haemodialyser, and is very efficient in removing solutes (Urden et al 2018:645). Indications include hyperkalaemia, medication toxicity, metabolic acidosis, uraemia symptoms, contraindications to other forms of dialysis, gastrointestinal bleeding, pericarditis, and a blood urea nitrogen level greater than 90 mg/d/L, whereas the contraindications are haemodynamic instability, inability to anti-coagulate, and lack of access to circulation. HD is used in many chronic HD units, and because levels of electrolytes, toxins and fluid increase in between treatments, haemodialysis occurs on a regular basis for 3–4 hours. Intermittent haemodialysis (IHD) is used in many chronic renal units, where patients receive 2–3 HD sessions per week (Urden et al 2018:645).

2.3.1.7 Continuous ambulatory peritoneal dialysis (CAPD)

Another RRT modality is CAPD, and it is the alternative treatment to HD. Kumar and Clarke (2012:644) explain how peritoneal dialysis as an RRT uses the peritoneal membrane as a semi-permeable membrane; thus, there is no need for extracorporeal circulation of blood. This treatment is simple, as opposed to HD. Creatinine, urea, phosphate and other uremic toxins pass into the dialysate due to concentration gradients. Water and solutes are pulled into the peritoneal cavity by osmosis, according to the osmolarity of the dialysate. This is established by the glucose or icodextrin percentage of the dialysate. The fluid is replaced routinely to repeat the process (Kumar & Clarke 2012:644).

Chronic peritoneal dialysis (PD) requires the insertion of a soft catheter, with its tip in the pelvis, originating from the peritoneal cavity in the midline and lying in a skin tunnel with an exit site in the lateral abdominal wall. Walker et al (2014:513) state that PD is principally used in the treatment of ESRD. PD is divided into continuous ambulatory peritoneal dialysis (CAPD) and automated peritoneal dialysis (APD). The choice of CAPD or APD will be determined by the patient’s lifestyle. Peritoneal transport status and patient survival on PD is similar to HD; these modalities should be seen as complementary, offering alternative benefit for patients and providing an integrated dialysis care approach (Steddon et al 2014:318).

2.3.1.8 Renal transplantation

Renal transplantation replaces normal kidney function more effectively, but not completely, and it should be regarded as the optimum treatment for ESRD. Transplant patients have better survival expectancy and have a better quality of life. Wang, Skeans and Israni (2016:281) state that such patients have a 90% survival rate. Walker et al (2014:513) concur that there is a greater chance of long-term survival in ESRD with renal transplantation, and that renal transplant works out to be the most cost-effective of the RRT's. All ESRD patients should be considered for transplantation, unless it is contra-indicated; however, not all renal patients are fit for transplantation because ESRD patients are often frail, with much comorbidity, especially vascular disease. Another factor to consider is that dialysis and transplantation are very expensive. De and Roy (2017:14) state that HD, the treatment for ESRD patients, is an expensive procedure in developing economies like those in South-East Asia, and particularly India. Moosa, Meyers, Gottlich and Naicker (2016:157) estimate that the cost of each patient receiving haemodialysis amounts to R200 000 per annum in South Africa.

2.3.2 A renal diet

ESRD patients require dietary adjustments. Walker et al (2014:504) indicate that sufficient nutritional support should be guaranteed, and that it is vital to give adequate amounts of energy and decent amounts of protein, although high protein intake should be prevented. It is also important to identify the food environment of patients, especially those who are living in extended families, as this environment could have an impact on patient's food choices. Daugirdas et al (2015:16) elaborate that renal diet management includes avoiding an abnormally high intake of foods rich in phosphorus, which includes dairy products, certain colas, and processed meats. A diet review should be carried out, with the goal of decreasing the patient's consumption of foods that contain phosphorus additives, and restricting phosphorus intake to 800–1,000 mg per day (26–32 mmol per day) (Daugirdas et al 2015:16). The intricacies of following a prescribed renal diet are daunting, even for the most diligent patient (Beto et al 2016:21). Kalantar-Zadeh, Brown, Chen, Kamgar, Lau, Moradi, Rhee, Streja and Kovesdy (2015:160) state that the requirements of the diet prescribed for dialysis patients are among the most restrictive, and such restrictions may frustrate many patients and lead to suboptimal adherence. Furthermore, health care providers should also acknowledge that the foods provided in most dialysis patients' homes rarely meet the prescribed renal dietary recommendations, because not all occupants of the home suffer from renal failure.

2.3.2.1 Cultural influences on diet

Culture and society are important components in modelling a person's diet, as people from diverse cultures consume different diets. Mediterranean dietary patterns may be healthier as opposed to their Western counterparts, for example; however, the abundance of potassium in Mediterranean diets may lead to hyperkalemia in patients with ESRD. Nevertheless, the Mediterranean diet has some beneficial ingredients, such as additional vegetarian sources of protein that have lower phosphorus/protein ratios and reduced phosphorus absorption relative to animal proteins (Sekkarie & Abdel-Rahman 2017:86).

Kalantar-Zadeh et al (2015:166) report that there are many peculiar racial or ethnic differences among haemodialysis patients. For example, in the US, there is a 3.5- and 1.5-fold greater representation of African-American and Hispanic patients, compared to non-Hispanic white patients. Such cultural differences may influence a patient's dietary choices (Freedman 2016:144). In addition, other factors such as cultural beliefs, traditions, language, and religious practices determine a person's health behaviour (Maneze et al 2015:7; Pollard, Kirk & Cade 2002:373–387). Prescribed renal diets therefore need to be personalised to be appropriate to each patient's situation in terms of cost, comorbid medical conditions, and cultural eating habits (Daugirdas et al 2015:451).

Cultural and economic factors influence people’s food perceptions and choices. In certain cultures, such as in Muslim, Hindu and Jewish culture, pork is prohibited. Ruane (2015:491) states that according to the Hebrew Bible, eating pork is an unclean practice, and is also treated as disgusting and horrific. In the book of Isaiah, pork is associated with death, idolatry and sin, and the prohibition against pork is so strict in the Islamic Republic of Iran that bringing pork into the country is punishable by a three-month jail sentence (Ruane 2015:491). These dietary laws determine which foods Muslim, Hindu and Jewish people are permitted to eat. It seems that eating pork will result in violating many people’s important cultural principles. Collins (2006:145) states that the avoidance of pork in Islamic belief is a primary food rule and is thus a way of maintaining one’s Muslim identity. Other food and beverages that are prohibited are alcohol, blood, animals that have been found dead, and meat that was not slaughtered according to Islamic procedures (Bonne & Verbeke 2008:114).

Africa has many countries, and its population consists of various ethnically diverse tribes and groups, with different beliefs, customs and languages. Due to the Eastern influence, rice is a staple food in northern Africa. In the traditional southern African lifestyle, green leaves from edible vegetables or weeds cooked with onion and potato, known as “*morogo*” or “*imifino*”, are high in potassium. Patients with impaired renal function who enjoy eating edible wild plants that are high in potassium are advised to boil these plants before cooking them, to reduce the potassium content (Onbe, Oka, Shimada, Motegi, Motoi & Okabe 2013:93). Another aspect of concern is that African people traditionally tend to consume only two meals a day, which consist of tea and dry bread or maize porridge called “pap” (Magadze, Obadire, Maliwichi, Musyoki & Mbhatsani 2017: 10619), which is served with a strongly flavoured or salty relish and cooked green leafy vegetables.

Levy et al (2012:385) state that the following traditional food items may be high in potassium: karela (bitter lemon), potato pakoras (an Indian fried snack), spinach (sag, callaloo), yam, plantain, cassava, okra, sweet potato, banana, mango, paw-paw, nuts, sweetmeats, chevda (a savoury snack) and coconut. Foods high in sodium include pickles, chevda, pork, salt fish, soy sauce, and any food flavoured with monosodium glutamate.

It is suggested that race and cultural beliefs play an integral role in a person's diet-health relationship (Maneze et al 2015:6). Health care providers, including nurses, need to take into account that it is difficult for people who have been part of a food culture for many years to change their dietary management. Although cultures may change with time, those changes are generally not dramatic, and a prescribed renal diet requires a significant change to a patient's food life (Onbe et al 2013:94).

2.3.3 Pharmacological management

Patients suffering from CKD who are receiving dialysis cannot survive solely on dialysis treatment. They require pharmacological management as well as dialysis and dietary management to prevent complications and treat their condition. Both the pharmacologic and dietary-nutritional status of patients receiving dialysis therapy have an overlapping and long-lasting effect on patient survival rate, even after successful kidney transplantation (Kalantar-Zadeh et al 2015:2013). Pharmacological management for CKD needs to be aimed at treating or preventing complications (Urden et al 2018:640). Table 2.1 provides a summary of possible classes of medication prescribed for patients receiving dialysis treatment.

TABLE 2.1 RENAL MEDICATION

CLASS OF DRUG	ACTION	NAMES OF MEDICATION
Red blood cell stimulating agents	It stimulates bone marrow to produce red blood cells (Ghasemi, Abdi, Salari, Tohidi & Faraji 2019:2284).	Erythropoietin (Eprex)
Iron supplementation	It replenishes iron stores in the body, so that the body can make more red blood cells. (Ghasemi et al 2019:2284)	Venofer
Loop diuretics	Act on the loop of Henle to inhibit sodium and chloride reabsorption. Reduce volume overload.(Urden et al 2018:642)	Furosemide/ Bumetanide
Dietary phosphate binders	It is bound to the binding substance in the bowel, and then eliminated from the intestine with the stool during defecation.(Urden et al 2018:643)	Titrilac (calcium and glycine)
Calcium supplements	Calcium replacement — calcium supplement, if serum calcium levels are low.(Daugirdas et al 2015:316)	Calcium carbonate
Vitamin D supplements	Vitamin D supplement — only to be taken if phosphate level is less than 1.4mmol/dL because it may stimulate absorption of phosphate ions.(Daugirdas et al 2015:316)	
Antihypertensive drugs	Controls/lowers the blood pressure.(Daugirdas et al 2015:587)	Enalapril/Pharmapress/Hypace, Amlodapine/Norvasc, Doxazosin/ Cardura, Prazosin, Carvedilol; Atenolol, Hydralazine, Methyldopa, Minoxidil/Loniten, Ditiazem, Losartan (Daugirdas et al 2015:587)

Table 2.1 will briefly be discussed.

2.3.3.1 Red blood cell stimulating agents

Erythropoietin is used in CKD patients, as it stimulates the bone marrow to produce more red blood cells. It can be administered intravenously or subcutaneously. Patients are also educated on eating foods rich in iron and protein; however, they need to be cautioned against foods that are rich in iron but high in potassium (Ghasemi et al 2019:2284).

2.3.3.2 Iron supplementation

Venofer is used for ESRD patients, and all patients receiving erythropoiesis-stimulating agents should be given iron supplementation (Ghasemi et al 2019:2284), as it replenishes iron stores in the body. In ESRD patients, Venofer is administered intravenously during dialysis therapy.

2.3.3.3 Loop diuretics

Loop diuretics act on the loop of Henle to inhibit reabsorption of sodium and chloride and reduce fluid overload in patients suffering from CKD (Urden et al 2018:642). They should be avoided in patients with sulfa allergy. Patients who continue to use loop diuretics decrease their risk of being admitted to hospital by 7% (El Hussein & Kilfoil 2019:4).

2.3.3.4 Dietary phosphate binders

Dietary phosphate binders must be taken at meal times; if they are taken two hours before a meal, they will only increase the serum calcium levels and not act as a phosphate binder and lower the serum phosphorus level. Titrilac is administered orally and is used in CKD patients. Patients should also be educated on eating a diet low in foods containing phosphates, such as dairy products (Urden et al 2018:643).

2.3.3.5 Calcium supplements

Calcium supplements are only administered if the patient’s serum calcium levels are low (Daugirdas et al 2015:316). Calcium carbonate is administered orally.

2.3.3.6 Vitamin D supplements

Vitamin D supplements are only to be administered if the patient’s phosphate levels are less than 1.4mmol/dL, because they may stimulate the absorption of phosphate ions (Daugirdas et al 2015:316). Alphacalcidol is administered orally.

2.3.3.7 Antihypertensive drugs

Antihypertensive drugs control and lower blood pressure. Antihypertensive treatment aims to prevent the complications of high blood pressure, such as stroke or myocardial infarction. The choice of antihypertensive treatment depends on a patient’s coexisting medical conditions, such as ischaemic cardiovascular disease (Daugirdas et al 2015:488). Antihypertensive medication is administered orally. Patients are cautioned against taking antihypertensive medication prior to dialysis, as it may decrease their blood pressure during dialysis. All patients are encouraged to carry their medication with them to every treatment session.

2.3.4 Blood investigations conducted on patients receiving dialysis therapy

Blood investigations for ESRD patients are crucial, as these markers indicate the extent of a patient’s renal failure, their need for dialysis, any improvement in their condition, and their level of waste product clearance. Walker et al (2014:501) describe the type of blood tests that need to be carried out on patients living on dialysis, in order to guide and monitor their dialysis treatment. Urea and creatinine levels need to be determined prior to the start of each dialysis treatment, and must be compared to previous results on a monthly basis to assess any deterioration or improvement in the patient’s renal function. Standard creatinine serum concentrations vary between 0.6 and 1.0 mg/dL (53–88 mcmol/L) in females, and between 0.8 and 1.3 mg/dL (70–115 mcmol/L) in males. Blood serum creatinine concentration indicates renal function, because as renal function declines, the production of creatinine continues, and therefore serum creatinine levels will rise. A timed (usually 24-hour) collection of urine can be used to calculate the creatinine clearance rate (CCr). Normal CCr is 20 mL/min in adult females and 25 mL/min in adult males (Walker et al 2014:501).

Serum electrolytes, such as chloride, sodium, potassium and bicarbonate, should be measured to screen for metabolic status and electrolyte disorders, which may indicate the underlying renal disease severity. These markers will be chronically abnormal in CKD patients. If potassium levels are>6 mmol/dL, they need to be treated urgently, and generally the patient is dialysed (Daugirdas et al 2015:4). The normal serum potassium value is 3.5–4.5 mEq/L (Urden, Stacy & Lough 2014:689).

The following blood tests are additional, and should be carried out as suggested by Steddon et al (2014), who state that managing renal failure requires regular and informed testing, and that investigations need to be ordered sensibly and cumulatively (Steddon et al 2014:118). A full blood count should be conducted before the initiation of dialysis, and if the patient’s haemoglobin (Hb) level is less than 7.0 gm/dL, dialysis cannot commence because the Hb level will further decrease with the treatment, resulting in further complications. A clotting screen should also be conducted prior to the initiation of dialysis and catheter insertion to determine the patient’s clotting times in order to prevent excessive bleeding during insertion and to determine the anticoagulation dose for the dialysis therapy. A virology test for hepatitis B should also be performed on all patients commencing HD, in order to prevent sero-conversion of hepatitis B-negative patients. HIV testing should also be performed on all patients commencing dialysis, in order to take the necessary precautions and to avoid sero-conversion of other patients, as the dialysis machines are used on many patients.

2.4 CONCLUSION

This chapter has discussed and clarified key concepts related to the study: renal failure, renal failure treatment (including types of renal replacement therapy, the renal diet, pharmacological treatment, and blood investigations done on patients receiving dialysis), and cultural influences on diet. The following chapter focuses on the research design and methodology. It describes the sampling strategy, the data collection procedures, and method used to analyse the data, as well as measures taken to ensure the rigour of the research, and the ethical considerations taken into account during the research process.

CHAPTER 3

RESEARCH DESIGN AND METHODS

3.1 INTRODUCTION

In the previous chapter, key concepts related to the study were introduced. This chapter presents the research design and research methodology in detail. The chapter discusses the qualitative, descriptive nature of the research, as well as the exploratory research design. It also describes the population and the sampling strategy, the data collection procedures, and method of content analysis used to analyse the data. Measures taken to ensure the rigour of the research, and the ethical considerations taken into account during the research process, are also discussed.

3.2 RESEARCH PURPOSE AND OBJECTIVES

The purpose of conducting research is to explore and describe a phenomenon, find solutions to existing problems, and to summarise the findings of previous researchers into logical evidence for practice, whereas the objectives of a study serve as a checklist to help guide and focus the study (Houser 2018:5). The purpose of this study was to improve the health education on adherence to a prescribed diet given to patients living on haemodialysis at a haemodialysis unit in the eThekwini Metropolitan Municipality. To realise the purpose, the following objectives guided the study:

- To explore the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis.
- To describe the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis

3.3 RESEARCH DESIGN

Brink et al (2012:217), Johnson and Christensen (2012:593), and Polit and Beck (2012:271) define a research design as a consolidated plan applied to address a research question. The study adopted a qualitative, exploratory and descriptive design to answer this question: “What are the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis?”

3.3.1 Qualitative research

The aim of a qualitative study is to understand the phenomenon in question from the insiders’ perspective. Therefore, the participants’ voices need to be heard, and the phenomenon needs to be investigated from multiple participants’ perspectives. Qualitative research explains phenomena through gathering non-numerical data, rather than through controlled measurements (Brink, Van de Walt & Van Rensburg 2018:104; Grove et al 2013:25; Houser 2018:162). Using a qualitative approach, the researcher was able to explore and describe the cultural practices and adherence to a prescribed diet, of patients living on haemodialysis. The qualitative approach saw the research being conducted in a real-life situation, namely in the unit where patients were receiving haemodialysis. The context allowed the researcher to appreciate the participants’ complex cultural practices regarding their adherence to a prescribed diet.

3.3.2 Exploratory research

Exploratory studies are aimed at investigating phenomena when there is limited information about the topic under study, and are very useful in nursing research for trying to find out more about a problem. Usually such a design contains a small sample and focuses on one or two variables, which is very useful when the researcher wants to gather information on a variable that is very difficult to measure, such as culture, as suggested by Huttlinger (2012:168). The intention of an exploratory study is not to generalise the findings; instead, the goal is to increase the body of knowledge in a certain discipline (Grove et al 2013:370). In this study, the researcher aimed to explore the phenomenon (the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis) by encouraging the participants to share their cultural practices, and to use their perspectives to create meaning.

3.3.3 Descriptive research

A descriptive study involves research on a particular event or situation that pre-exists, where the study is thorough and systematic. Descriptive research is employed when very little is known about the research problem and where more information is required of certain situations as they occur naturally (Brink et al 2018:95; Houser 2018:41). According to Fain (2009:23), in a descriptive study a specific event or situation that currently exists is described systematically. The main aim of descriptive research is to deliver a detailed description of the phenomenon under study (Brink et al 2018:96). A descriptive approach was considered appropriate for this study because the study intended to describe, systematically and in detail, the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis, as not much is known in this context about the topic.

3.3.4 Research setting

Polit and Beck (2012:743) define a research setting as the physical place and conditions in which data collection occurs. The research was conducted in South Africa, in an 846-bed tertiary public hospital in eThekwini Metropolitan Municipality in KwaZulu-Natal. The data collection was carried out in the renal department, in the haemodialysis clinic. This clinic services approximately 90–100 adults and paediatric patients from Mondays to Saturdays, between 7am and 4pm. All patients have different treatment regimes, which are prescribed according to their blood markers. These treatments include haemodialysis sessions. Some patients are dialysed twice a week, while others are dialysed three times a week. These dialysis sessions could last 3–4 hours. Professional nurses as part of the multi-disciplinary team are responsible for the care of the patients during the dialysis sessions. During their dialysis treatments the patients are provided with health education regarding a prescribed diet and medication by members of the multi-disciplinary team.

3.4 RESEARCH METHODOLOGY

Research methodology refers to the methods utilised to formulate a study and to collect and analyse information in a structured fashion (Polit & Beck 2014:390). The methodology applied will be discussed in terms of the population, the sample selected, the methods of data collection and analysis, the measures of trustworthiness employed, and the ethical considerations taken into account.

3.4.1 Population

A population comprises of the overall collection of persons or subjects having mutual characteristics (Polit &Beck 2012:738). In this instance, the shared characteristics were patients receiving haemodialysis treatment at a dialysis unit. A target population is a group of people who meet the sampling criteria, while the accessible population is that section of the target population to which the researcher has access (Grove et al 2013:351). The total target and accessible population was 95 patients who received haemodialysis treatment at the tertiary public hospital selected. Participants were selected according to a set of inclusion criteria, which are described by Grove et al (2013:353) and Houser (2018:162) as the qualities a participant possesses to be involved in a study. The inclusion criteria for the target and accessible population were:

- they were patients at the selected dialysis clinic who were
- above 18 years of age, and who were
- receiving haemodialysis treatment for renal failure at the clinic.

The researcher targeted these patients, as it was believed they would provide information that would address the phenomenon under study, answer the research question, and achieve the objectives of the study.

3.4.2 Sample

A sample is a sub-sample of the population that is chosen for a study that illustrates the characteristics of the entire population (Polit & Beck 2016:250). A purposive and convenience sample was used because the researcher was interested in information specific to the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis. Ehrlich and Joubert (2014:354) highlight that in a purposive sample the researcher intentionally chooses participants or settings to ensure that the sample covers all the characteristics of interest. The patients who attend dialysis therapy in a clinic as outpatients were selected purposively according to the same set of criteria as the population, as it was assumed that they could provide first-hand information about their cultural practices regarding a prescribed renal diet. They were also conveniently selected since they were readily accessible and were available at a given time. Convenience sampling is a form of non-probability sampling of participants of the target population who meet the inclusion criteria, who are readily accessibility, who are available at a given time, and who are eager to participate (Ilker, Sulaiman & Alkassim 2015:2).

3.4.2.1 Recruitment

Recruitment of participants for a study is a procedure carried out to identify potential participants who are eligible and making contact with them (Houser 2018:181). A list of 95 patients suffering from CKD and receiving haemodialysis therapy in the selected dialysis unit was obtained from the operational manager, who acted as gatekeeper of the unit after permission to conduct the study was granted from the medical manager of the institution (Addendums E and F). Participants who met the inclusion criteria were approached individually and were asked if they would be interested in participating in the study. They were given the informed consent forms to read. Once they were informed what the study was about, they could ask questions. They were then asked to sign the consent form (Addendum B). There were no challenges faced by the researcher during the recruitment process, as the participants understood clearly, and signed the consent forms after reading them. No participants withdrew from the study.

3.4.2.2 Sample size

There is no strict rule with regard to sample size in qualitative research (Grove et al 2013:371). The number of participants in the sample was not predefined, as in quantitative research, and the sampling judgments were directed by the data saturation point, which is the point at which the information provided by the participants becomes repetitive and no new information emerges, as suggested by Polit and Beck (2014:55). Data saturation was established after 16 participants had been interviewed; however, the researcher conducted four further interviews, and still no new information emerged. A total of 20 patients participated in the interviews.

3.4.3 Data collection

Data collection is the systematic collection of information that is used to address a research question, which is relevant to the research purpose, study objectives, or hypothesis of the study (Grove et al 2013:691; Polit & Beck 2016:725).

3.4.3.1 Data collection approach and method

Semi-structured interviews were utilised to gather data by means of an interview guide (Addendum A). A semi-structured interview is a data collection tool which guides the researcher. It has a range of topics to cover rather than a specific set of questions to ask, and has broad areas of questions that allow the researcher to ask further, follow-up questions (Polit & Beck 2012:742). The central question asked was: “Please tell me more about your diet you follow, since you received dialysis treatment”.

3.4.3.1.1 Development and testing of the data collection instrument

Before conducting the actual interviews, the researcher pre-tested the data collection tool. Pretesting is strongly suggested as a sound technique for enhancing validity in qualitative data collection procedures (Hurst, Arulogun, Akinyemi, Uvere, Warth &

Ovbiagele 2015:56). Pretesting of a data collection instrument entails mimicking the official data collection process on a very small scale to identify and solve any practical problems that could affect the data collection instrument or procedure. Pretesting is important, as it can help the researcher to detect any possible problems with translation, with cross-cultural understanding, or with ambiguous language, and can alert the researcher to how or why a core research project could fail by pointing out where research protocols are not being followed (Hurst et al 2015:56). The pre-testing interview was carried out in a quiet room, with no interruptions. Each patient was comfortably seated before being interviewed individually.

The interview guide was tested with an interviewee who was not part of the study. The interview was transcribed word for word, the transcript was read and re-read, and notes and headings were made by the researcher and the supervisor. The interview guide was then adjusted based on the supervisor’s comments, and another interviewee was interviewed. This interview seemed to provide richer information. As a novice, the researcher learnt how to structure interviews better and learned how to probe the participants for further information, which encouraged them to answer the questions. The interview guide consisted of open-ended questions, as suggested by Polit and Beck (2016:270). The instrument that was developed consisted of three sections (see Addendum A). Section one and two included general introductory biographical data, such as gender, age, educational level, home language, which religion they belong to, the duration of their dialysis treatment, and their blood results, specifically their potassium and phosphate levels. Although the researcher asked questions about the participants’ cultural details, it was decided not to report on these specifics to prevent possible exposure of the participants. Section three consisted of the central questions, including possible probing questions, which were structured using the objectives of the study and the research questions as a guide.

3.4.3.1.2 Field notes

Field notes were written to ensure that the researcher recorded things that were heard, seen and experienced but could not be audio recorded, as suggested by Polit and Beck (2016:508). The field notes contained information on the participants’ facial expressions, on when they laughed, and on if they took long pauses before answering. Field notes were included to enhance the electronic recording of the interviews, and were written directly after the interviews, as indicated in the example in Addendum J.

3.4.3.1.3 Planning of data collection

The planning of data collection took place as follows:

TABLE 3.1 PLANNING OF DATA COLLECTION

ACTIONS PLANNED	IMPLEMENTATION OF ACTIONS
Approval from UNISA Research Ethics Committee	Addendum C
Obtain Department of Health KwaZulu-Natal approval letter	Addendum D
Hospital approval letter	Addendum E
Nursing Manager — Gatekeeper support letter	Addendum F
Recruitment of participants	Participants were carefully recruited based on the inclusion criteria. All participants signed a consent form to participate in face-to-face interviews (Addendum B).
Planning for tape recording	The participants gave signed consent for audio recording.

3.4.3.2 Data collection process

In qualitative research, data gathering occurs concurrently with data analysis. The researcher’s intentions need to be explicit, and acceptable in relation to the participants’ perspectives and values (Grove et al 2013:268). All interviews were voice recorded and were conducted in a quiet environment to avoid any disturbances, and participants were comfortably seated. The interviews were recorded in order to produce an accurate transcription, and in order for the researcher to be able to focus on the interview, as suggested by Botma, Greeff, Mulaudzi and Wright (2010:214). Permission to record the interview was also sought from each participant, as suggested by Ehrlich and Joubert (2014:37). The researcher first recorded the initial conversation for a minute, and promptly listened to the recording to ensure that the device was recording correctly. The researcher utilised the interview guide to guide the interview. The duration of each interview was 20–30 minutes. The first transcribed interview was submitted to the researcher's supervisor, who advised the interviewer to probe more deeply and ask more leading questions, as the participant had not given complete answers.

The researcher used English as the medium of communication. It was found that some participants, who were not from a Westernised culture, could not express themselves well, even though they understood English and could speak the language. The researcher had to probe to ensure that the best possible information regarding their dietary practices could be collected. The researcher is also conversant in isiZulu and isiXhosa, and could explain the questions to the participants in those languages if they could not understand the English questions well. The interviews were conducted at the clinic, and the interview time was established by the participants, to ensure that they did not miss their treatment or their transport home. Prior to the interviews, the researcher informed the participants of ethical issues such as the confidentiality of the study, the purpose of the study, their voluntary participation and their right to withdraw without providing any reason. They were also informed that they could ask about anything that they needed explained. Once the participants were satisfied with the above, they signed informed consent forms (Addendum B).

The researcher employed good communication skills, and showed respect to all the participants throughout the interview process. Data was collected between 17 April and 28 May 2018 from patients attending dialysis.

3.4.3.3 The researcher

Qualitative researchers are the essential components of data collection. They are seen as the main instrument and are subjectively involved in the research process. Their role is to examine documents, to observe participants' behaviour, to interview the participants, to understand the findings, and to avoid generalising (Brink et al 2018:104; Creswell 2013:45). A major limitation of interviews is the power relationship between the researcher and the participant, where the participants perceive the researcher to be in a position of authority (Das 2010:17). The researcher has a responsibility to ensure that the participants are comfortable. To ensure the above, the researcher included a moderator in some of the interviews to establish whether similar data was being obtained during the interviews. It appeared that similar information did emerge during these interviews. The researcher listened carefully to the participants' narratives and ensured that they were comfortable with sharing their cultural practices regarding adherence to the prescribed diet. Pezalla, Pettigrew and Miller-Day (2015:17) suggest that participants who feel comfortable are more likely to disclose the information the researcher requires.

3.4.3.4 Data management

Data management procedures need to be in place, and while developing the data collection tool the researcher needs to make decisions on where and how the data will be recorded and stored, on what forms will be used, and on the procedures that the data collector will need to follow (Houser 2018:218). Meadows, Lewis-Beck, Bryman and Liao (2011:891) explain that data management in qualitative research begins at the outset of the project. Data will originate from various sources and will be extensive; it may include documents, field notes, voice recordings, transcripts and journals at a very early stage. These need to be recorded and transcribed, to be used throughout the study. Narratives of codes, categories or themes that reflect the process of shifting the data from description to analysis, and to the final interpretation and/or theory are all part of the data in a project.

The researcher managed the data by recording each interview in a separate file and marking it with an allocated transcript code, such as "Participant 1". All electronic copies were password protected to ensure confidentiality, and meticulous records were kept for auditing purposes.

3.4.4 Data analysis

Data analysis is the systematic organisation and breakdown of the researched data (Polit & Beck 2016:535). Qualitative data analysis is a non-numerical method that is used to understand observations that determine essential meanings and patterns. It is a process of exploring and translating data to seek trends and patterns, in order to establish empirical knowledge (Babbie 2014:403; Grove et al 2013:279). Analysis consists of comparing and contrasting the final data to identify the patterns that emerge (Brink et al 2018:106).

Content analysis is widely used in health studies, and describes an analytical approach that combines intuitive, interpretative and systematic analysis. The aim of content analysis is to gain knowledge and understanding of the phenomenon under study (Hsieh & Shannon 2014:1277). There are three approaches to content analysis — conventional, directed and summative — and the researcher opted to use the conventional approach to content analysis. The benefit of conventional content analysis is that it obtains direct information from the participants without establishing preconceived categories or perspectives (Hsieh & Shannon 2014:1280).

The researcher commenced by reading through the first transcribed interview carefully to obtain a sense of the whole narrative. The researcher made notes of key phrases and statements in order to form codes. This was done with all the transcripts. Codes were then sorted into categories and subcategories, until all data fitted into groups that could be further analysed to deduct meanings. A tree diagram was used to place these codes and categories in a hierarchy. The researcher read and re-read the transcriptions repeatedly to make sure she had really heard the voices of the participants. Thereafter, descriptions for each category and subcategory were developed and categorised into themes. Crucial statements were also retrieved from the transcripts.

3.4.5 Trustworthiness

Lincoln and Guba (1985) pioneered specific strategies to enhance trustworthiness (rigour) in qualitative studies (as cited in Polit & Beck 2012:584). These include credibility, dependability, confirmability, transferability and authenticity. These will be discussed below, to indicate that this study could be considered trustworthy.

3.4.5.1 Credibility

Credibility is assurance of the truth of the information and interpretations (Polit & Beck 2012:585). The researcher used prolonged engagement, member checking, reflexivity and bracketing to enhance the credibility of the study.

Prolonged engagement was applied by the researcher spending a lengthy period with the participants, thus allowing the researcher to verify viewpoints, and further allowing the participants to become familiar with the researcher, as suggested by Krefting (1991:217).

Member checking involves testing the data, the analytical categories, the perceptions, and the conclusions with the participants from whom the data was originally obtained, and requesting feedback from the participants to ensure accuracy (Houser 2018:245). The researcher reported back to the participants and asked them to verify the accuracy of the recorded information, and to confirm whether the researcher's understanding was an adequate expression of their viewpoints. The participants confirmed that these were indeed correct.

Reflexivity entails the researcher assessing his or her personal behaviour and experiences in the research context (Krefting 1991:218). During and after the interviews the researcher reflected on the interviews and what could have been done better, for example whether sufficient probing had been done. This activity allowed the researcher to be more aware of certain points when conducting the subsequent interviews.

The researcher applied bracketing throughout the study by becoming aware of and identifying predetermined ideas and thoughts, and by not allowing them to get in the way of obtaining data that was devoid of manipulation, as suggested by Terre Blanche, Durrheim and Painter (2012:322). Houser (2018:245) states that a researcher should also bracket presumed knowledge about the topic during data collection and data analysis to prevent bias. During the interviews the researcher listened with an open mind, without judging the participants but wanting to gain insight into their experience. To develop rigour and to mitigate bias in the research by maintaining data neutrality, the researcher also conducted numerous open discussions with the study supervisor about the study and about the personal experiences of the participants.

3.4.5.2 Dependability

Brink et al (2012:172) explain dependability as the provision of evidence that can be replicated in a similar context. The researcher employed member checking, as described in section 3.4.5.1, and kept an audit trail. Guba (1981) uses the term “auditable”, which describes a situation where another researcher is able to follow a decision trail used by the researcher. The researcher kept records of all ethical approval documents, and all data collected, recorded and transcribed, as precisely as possible, and ensured that these records were secure at all times in case an audit was required.

3.4.5.3 Confirmability

Confirmability pertains to the level of agreement of the data in reference to accuracy, relevance or meaning (Brink et al 2012:173). The researcher provided a detailed description of the accounts of the participants, allowing the reader to understand the participants’ cultural practices. In addition, all documents were kept secure, which included all the approval documents, signed consent forms, audio recordings, field notes, interview transcripts, data analysis and findings. The researcher also provided verbatim extracts to include the voices of the participants when presenting the data.

3.4.5.4 Transferability

According to Polit and Beck (2012:585), transferability refers to the extent to which findings can be applied to or have pertinence to other areas or groups.

Transferability was ensured through purposive sampling, and through providing adequate clarification and description in the report about the research setting, participants, data collection strategies, analysis and findings, to enable other researchers to conduct similar studies.

3.4.5.5 Authenticity

Authenticity is the degree to which researchers impartially portray a variety of realities, and it is achieved in a report when it conveys the detailed viewpoints of participants (Polit & Beck 2012:585). The researcher ensured authenticity by incorporating direct quotes from the participants to try to provide an inside perspective of the participants’ cultural practices in relation to their adherence to a prescribed renal diet.

3.4.6 Ethical considerations

Polit and Beck (2016:727) describe ethics as a framework of moral values that relates to the extent to which research methods comply with professional, legal and social obligations to the study participants. The researcher adhered to the following ethical principles based on the Belmont report for research, namely, justice, ensuring that the rights of the participants were protected, beneficence, protecting the rights of the institution involved, and scientific integrity, as suggested by Polit and Beck (2012:151).

3.4.6.1 Justice

Polit and Beck (2016:141) describe justice as the fair distribution of the advantages and the strain of research. Participants were identified based on the study prerequisites, and were selected according to a fair and open procedure that involved all eligible participants being provided with information and consent forms. Only the participants who signed and returned the consent forms were interviewed (Addendum B). The researcher requested only information related to the study, and no victimisation or loss of benefits occurred if a participant refused to participate or had to withdraw from the study. However, no participants withdrew, and all participated until the end of the interviews. The researcher was aware of the vulnerability of the participants and therefore continued to liaise with the gatekeeper and observed for any signs of distress.

While obtaining data from the participants' narratives, the researcher was careful to note non-verbal cues that indicated discomfort or unhappiness, such as their facial expressions, any change in their tone of voice, and smiling or laughing. These non-verbal cues are generally a sign of some sort of sensitivity to the questions. Even though the participants did not verbalise any discomfort, the researcher made sure to check whether they were still comfortable to continue with the interview if non-verbal cues were noted. The researcher was also careful not to judge participants who were non-compliant with their prescribed renal diet.

3.4.6.2 Protecting the rights of the research participants

The following ethical issues were taken into account for this qualitative study: informed consent, respect for human dignity, confidentiality and anonymity, and self-determination and protection from harm. Researchers have an ethical responsibility to identify and protect the rights of human research participants (Burns & Grove 2009:189–206). The researcher safeguarded the participants' right to self-determination when asking for written consent to participate in the study. The researcher further made sure that the participants understood the voluntary nature of their participation, and guaranteed that they could withdraw at any time from the study without any need for explanation, and without adverse consequences.

Participants were treated with dignity throughout the interview process. The researcher conversed with the participants in a dignified manner and afforded them the liberty to refuse to respond to any question that perhaps made them feel uneasy. The researcher gained approval from the relevant gatekeeper (the unit manager — see Addendum F) before conducting any interviews, as the gatekeeper within an institution has the power and responsibility to protect possible vulnerable people (Holloway & Galvin 2016:45).

Informed consent is the ethical principle of voluntary participation and protecting participants from harmful consequences (Ehrlich & Joubert 2014:37). Polit and Beck (2016:143) explain that participants have the right to make an informed and voluntary choice about whether to participate in a study, and that the researcher is compelled to disclose fully all information about the nature and results of the study. Gaining informed consent means that all possible information on the aims of the investigation and other information relevant to the participants must be communicated to them. The credibility of the research must also be explained to possible participants. The researcher clarified the purpose and nature of the research with the participants (see Addendum B), and explained what would be expected from them and how the findings would be used. The researcher further explained that there would be no discrimination, intimidation or duress against any of the participants should they decide to withdraw.

Polit and Beck (2016:141) describe privacy as the protection of individual participants' private information. Any information that could identify a participant in the study should not be shared with any other individual. All interviews were therefore conducted in a private and safe room, where other individuals could not overhear the interviews. None of the participants' names were mentioned by the researcher, and the researcher used codes (such as P1) to identify the participants rather than their names.

Polit and Beck (2016:147) define confidentiality as the protection of the data provided by the participants, particularly any data that contains personal or sensitive information. This data must not be made accessible to anyone other than the researcher. The researcher guaranteed participants that all the data would be stored safely and protected from other individuals, and that the data would only be shared with the participants' permission. The researcher and the moderator further signed a binding confidentiality agreement (Addendum G and I) ensuring the participants' privacy and confidentiality. All recorded interviews and any written biographical data that could be used to identify the participants were stored safely in a locked cupboard, as suggested by Polit and Beck (2016:147).

3.4.6.3 Beneficence

Polit and Beck (2016:139) describe beneficence as the reduction of harm and the increase of benefits to the participants of a study. Any negative effects in the form of unavoidable discomfort or distress experienced by the participants after participation are only acceptable if the benefits of their participation outweigh these negative or unavoidable effects, and if they give their informed consent to participate (Polit & Beck 2016:139). The researcher safeguarded this ethical principle during the research process, and prevented causing any emotional or psychological unease to all participants by displaying empathetic behaviour and being transparent throughout the research process. Beneficence was applied, as the researcher gathered information that could be used to benefit the patients by giving them further health education on their prescribed diets in light of their different cultural practices. The interviews also benefited the participants, because some of their misconceptions were cleared up and health education was provided after the interviews, as the researcher identified the interactions as a teachable moment.

3.4.6.4 Protecting the rights of the institution involved

The rights of the researcher’s institution were protected by obtaining all necessary permissions, such as ethical clearance from the Higher Degrees Committee of the Department of Health Studies (approval number HSHDC/832/2018) (UNISA) (Addendum C), the KwaZulu-Natal Department of Health (Addendum D), the Research and Ethics Committee of the Hospital (Addendum E), and finally a support letter from the nursing management of the institution (Addendum F). The identities of the stakeholders will not be revealed when the study is reported in scientific journals.

3.4.6.5 Scientific integrity

Scientific integrity involves compliance with the norms of intellectual sincerity in formulating and reporting scientific research, and avoiding claims of research misconduct (such as fabrication or plagiarism) in suggesting, conducting or reporting the research results (Polit & Beck 2012:168–169). The researcher maintained the above principles throughout the study. The dissertation was run though a plagiarism checker (Addendum L).

3.5 CONCLUSION

Chapter 3 has presented the research purpose and objectives, the research design, the research setting, and the research methodology (including the population, sample, and data collection procedures and data analysis). Methods to enhance the rigour of the study, and ethical considerations taken into account during the course of the study, were also discussed. The following chapter will present and discuss the research findings.

CHAPTER 4

FINDINGS AND DISCUSSION

4.1 INTRODUCTION

In the previous chapter, the research design and methodology applied were discussed. Chapter 4 presents the biographical details of the participants and the findings of the study obtained through conducting semi-structured interviews. The findings that emerged from the analysed verbatim transcripts are presented as themes, categories and subcategories, followed by a discussion of these findings. The purpose of this study was to improve the health education on adherence to a prescribed diet given to patients living on haemodialysis, at a haemodialysis unit in the eThekwini Metropolitan Municipality.

4.2 BIOGRAPHICAL PROFILE OF RESEARCH PARTICIPANTS

Table 4.1 indicates the biographical information of the participants. Thirteen males and seven females participated. The participants' ages ranged from 29 to 73 years, and their educational levels from Grade 6 to a BCom degree. The range of ages and educational levels meant that the researcher was able to collect data from different perspectives. Table 4.1, which summarises the participants' demographic information and their blood profiles, also shows for how long the participants had been receiving haemodialysis treatment, which ranged from one month to eight years. This information implied that some participants would have been quite familiar with ESRD and the dietary requirements.

The participants' blood results showed their potassium and phosphate levels. These are significant blood markers in ESRD. Normal plasma concentration levels of phosphate are 0.8–1.4mmol/L (Walker et al 2014:448). According to the data collected, it can clearly be deduced that some of the participants had raised serum phosphate levels; for example, P1, P4 and P14's phosphate levels were 2.58mmol/L, 3.50mmol/L and 2.77mmol/L respectively, indicating a substantial increase in their blood markers. These results are concerning, as they could be ascribed to the participants not adhering to their prescribed medication and/or to the dietary phosphate restrictions, as adherence to the prescribed medication and a renal diet should assist in reducing a patient's phosphate levels. Berns (2017) states that as CKD progresses the phosphate levels in the blood increase and need to be treated with medication, to prevent phosphate found in food from being absorbed into the digestive system.

TABLE 4.1 PARTICIPANTS' DEMOGRAPHIC DATA AND BLOOD RESULTS

Participants	Age	Gender	Educational level	Duration of dialysis treatment	Blood results: Potassium (3.5-4.5mmol/L)	Blood results: Phosphate (0.8-1.4mmol/L)
P1	34	Male	Matric	8 months	4.9	2.58
P2	34	Female	Matric	7 months	4.4	1.83
P3	29	Female	Matric	6 months	5.5	1.28
P4	29	Male	Grade 11	3 years	7.1	3.50
P5	32	Female	Matric	5 years	5.4	1.84
P6	67	Male	Grade 11	1 year	5.1	0.88
P7	35	Male	Matric	7–8 years	4.7	1.83
P8	33	Male	Matric	11 months	4.3	1.38
P9	55	Female	Matric	5 months	5.1	1.99
P10	34	Male	Grade 11	5 years	4.8	1.71
P11	64	Male	Grade 10	5 months	5.3	0.73
P12	41	Male	Matric	9 months	8.0	1.44
P13	56	Female	Grade 10	2 years	6.5	1.77
P14	73	Male	BCom	15 months	7.3	2.77
P15	31	Female	Grade 9	5 months	5.0	1.38
P16	43	Male	Matric	6 months	5.1	2.79
P17	58	Female	Grade 6	1 month	3.9	1.46
P18	59	Male	Grade 10	14 months	4.7	1.68
P19	34	Male	Grade 11	Almost 4 years	5.3	1.74
P20	39	Male	Tertiary Education	2 years	6.4	2.25

Another significant blood marker in determining the level of kidney function is potassium. According to Bakris and Olendzki (2017), people with CKD or ESRD need to limit the amount of potassium in their diet to keep their blood potassium levels close to normal, to prevent pre-dialysis hyperkalaemia. Normal plasma potassium levels are 3.5–4.5mmol/L (Urden et al 2014:689), and the data in Table 4.1 indicates that most of the participants had raised potassium levels; for example, P4, P12 and P14's potassium levels were 7.1mmol/L, 8.0mmol/L and 7.3mmol/L, respectively. The cause of the high potassium levels could be due to poor adherence to a renal diet, where the participants are not adhering to a low-potassium diet.

4.3 THEMES, CATEGORIES AND SUBCATEGORIES EMERGING FROM THE DATA

Three main themes, seven categories and six subcategories emerged from the data analysis. Each theme is discussed below as categories and some as sub-categories, with supporting narratives from the interviewed participants. The three themes are *Cultural practices and adherence to the renal diet*, *Challenges patients experience with adherence to a renal diet* and *Patient support in relation to diet adherence*. The themes, categories and subcategories as are displayed in Table 4.2.

Theme 1, *Cultural practices and adherence to the renal diet*, addresses the first objective of the study, which was to explore the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis. Theme 2, *Challenges patients experience with adherence to a renal diet*, and Theme 3, *Patient support in relation to diet adherence*, address the second objective of the study, namely, to describe the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis.

TABLE 4.2 SUMMARY OF THEMES, CATEGORIES AND SUBCATEGORIES

THEME	CATEGORIES	SUBCATEGORIES
Theme 1: Cultural practices and adherence to the renal diet	1.1 Cultural practices regarding diet or food	1.1.1 Religious and cultural traditions related to food
	1.2 Family's cultural view regarding food	1.2.1 Dietary requirements versus family's views
Theme 2: Challenges patients experience with adherence to a renal diet	2.1 Financial implications	
	2.2 Availability of food resources	
	2.3 Portion size too small	
Theme 3: Patient support in relation to diet adherence	3.1 Health education	3.1.1 Nurses' and doctors' health education of the patient 3.1.2 Dietician consultation and information given
	3.2 Family support of patients' dietary choices	3.2.1 Family understanding and encouragement of patient to adhere to the renal diet 3.2.2 Family participation in preparing a renal diet

4.3.1 Theme 1: Cultural practices and adherence to the renal diet

The theme, *Cultural practices and adherence to the renal diet* was divided into two categories, namely, 'Cultural practices regarding diet or food' and 'Family's cultural view regarding food'. Participants shared whether they and their families had similar or different cultural views on diet, and whether this had an impact on the participant's adherence to the renal diet. Both categories were further divided into a subcategory, as shown in Table 4.3.

TABLE 4.3 THEME 1: CULTURAL PRACTICES AND ADHERENCE TO THE RENAL DIET

THEME	CATEGORY	SUB-CATEGORY
Theme 1: Cultural practices and adherence to the renal diet	1.1 Cultural practices regarding diet or food	1.1.1 Religious and cultural traditions towards food
	1.2 Family's cultural view regarding food	1.2.1 Diet requirements versus family's views

4.3.1.1 Category: 1.1 Cultural practices regarding diet or food

The category 'Cultural practices regarding diet or food' emerged from the participants' narratives regarding shared dietary practices that dictated the food they were permitted or forbidden to eat. Their family's cultural views regarding food seemed to have a strong influence on the participants' adherence to their prescribed diet. Some participants indicated that their decisions were based on their religious orientation, while others simply stated that it was their culture, as illustrated in the following excerpts:

> *P6: "Because it's my culture, I don't eat pork at all."* [67 years, male]
>
> *R: "Okay, is there anything specific that they don't eat?"* [Here "they" refers to the participant's family].
>
> *P1: "Pork."*
>
> *R: "Okay, so they don't eat pork?"*
>
> *P1: "Yes."*
>
> *R: "No one in your house? And you do not eat pork?"*
>
> *P1: "Yes. I don't like pork."*
>
> *R: "Why, can you tell me why?"*
>
> *P1: "It is against my religion."*
>
> *R: "It is against your religion to eat pork?"*
>
> *P1: "Ya."* [34 years, male]

4.3.1.1.1 Subcategory: 1.1.1 Religious and cultural traditions related to food

The data showed that the participants' religion and culture influenced their decisions on which foods to eat. Certain foods are prohibited when patients are receiving dialysis treatment, since they contribute to fluid retention and increased potassium and phosphate blood levels. Pork products are high in phosphate and sodium; however, the participants' reasons for not eating pork were primarily related to their religious beliefs. The Muslim and Hindu participants had fixed views about not eating pork. The Muslim participants indicated that food that has not been processed according to Halal laws is prohibited. One participant was adamant, as she said:

> *P5: "We just, now that we are Muslim, we don't eat stuff that's not Halal, like pork."* [32 years, female]

> *[Field notes P5: Participant's facial expressions appear rather serious, when discussing her cultural practices.]*

The Hindu participants stated that not eating pork is a tradition that is passed on from generation to generation, and could not provide a definite reason for this belief, as the following quote illustrates:

> *P13: "Well my husband eats pork my children don't eat and I don't eat pork… I think it is because err, well with me it doesn't agree I tried it once and err (long pause) … Because I don't, they don't it's like a family, family no because they Hindus and they came up in a Hindu background."* [56 years, female]

Another participant explained that he and his family used to enjoy eating foods such as pork, but have stopped eating it because of its high levels of salt. They now know the disadvantages of eating such foods. He said:

> *P7: "Er… ya we just don't we just personally just don't eat you know, like our culture tells us to stay away from pork but we do eat it, but my parents don't eat it because that's what they believe in, I don't believe that we love the pig so when we do get a chance to eat it, ya we do eat it, but now obviously we don't eat it, because it is high in salt and we don't eat it at all now."* [35 years, male]

Another participant explained that food plays an important role in his culture. He explained that it is valued highly and that "food is everything" in African culture:

> *P8: "…Ya, they are not happy, because us as Africans we believe that food is everything, when I am not eating too much everyone, they say you become*

> *weaker, you become thinner and you the medication won't work if in the empty stomach, ya they don't understand that."* [33 years, male]

However, one participant stated that she had no cultural restrictions on her food intake:

> *R: "Okay once again you said that there is nothing that your culture prohibits you to eat?"*
>
> *P2: "No."* [34 years, female]

4.3.1.2 Category: 1.2 Family's cultural view regarding food

The category 'Family's cultural view regarding food' addresses the influence of family members' cultural views on the participants' choice of food. The excerpt below illustrates this influence, as the participant stated that his brother believed pork was demonic, and that fish destroyed the power of the *sangoma* (traditional healer).

> *P8: "...They, pork it's full err full of demons ya, and the fish they think the sangoma medication the fish destroys all the power of the muti…Of the muti, people use sangoma."*
>
> *R: "And who says this?"*
>
> *P8: "In my family?"*
>
> *R: "In your family. Yes."*
>
> *P8: "It's my elder brother."* [33 years, male]

The above narrative shows that even though fish is rich in protein, and the participant is encouraged to eat a certain amount of protein, his family's cultural influence negatively affects his attitude towards fish.

4.3.1.2.1 Subcategory: 1.2.1 Dietary requirements versus family's views

ESRD patients are required to adhere to a strict renal diet, as they have specific requirements regarding their dietary intake, and need to adhere to a low-sodium, low-potassium and low-phosphate diet, with adequate protein intake. The family views on the dietary requirements of a patient receiving dialysis treatment could hinder or support their adherence to this specific diet. Dietary requirements versus family views were illustrated in relation to the amount and type of food that was eaten. A participant explained that his family did not understand that he needed to adjust the amount and type of food he consumed, as they believed that he would become weaker if he did so:

> *R: "Okay, tell me more about how your family members consider your condition, regarding your food."*
>
> *P8: "Ya, they are not happy, because us as Africans we believe that food is everything, when I am not eating too much everyone they say you become weaker, you become thinner and the medication won't work if it in the empty stomach, ya they don't understand that."*
>
> *P8: "…In a good way, I think I will live longer, because if you eat if I can eat a banana now, I might die immediately, even dumbe (madumbe)* [a protein-rich indigenous starchy vegetable] *I can die."* [33 years, male]

Another participant explained that when visiting a friend, he needed to eat everything that was provided because his friend does not believe in a diet. He said:

> *P20: "My believe in diet in my culture ey they are ey we are not exposed to that sickness it will still take a period for the people to understand the diet in our culture when we make a visiting a friend they just give ey everything take we must chow* [eat] *here because his don't believe in diet, it's you who have to tell them now I'm sick I'm no more eating this."* [39 years, male]

4.3.2 Theme 2: Challenges patients experience with adherence to a renal diet

The second theme addresses *Challenges patients experience with adherence to a renal diet*. Under normal circumstances people struggle to eat a balanced diet, and this becomes even more difficult if one is diagnosed with renal failure. The participants in this study experienced additional challenges, which emerged as the categories ‘Financial implications’, ‘Availability of food resources’ and ‘Portion size too small’, as shown in Table 4.4.

TABLE 4.4 CHALLENGES PATIENTS EXPERIENCE WITH ADHERENCE TO A RENAL DIET

THEME	CATEGORY
Theme 2: Challenges patients experience with adherence to a renal diet	2.1 Financial implications
	2.2 Availability of food resources
	2.3 Portion size too small

4.3.2.1 Category: 2.1 Financial implications

The category ‘Financial implications’ emerged from narratives in relation to the cost of food required for a renal diet, particularly for green vegetables, which the participants were not used to eating. The following extracts illustrate the financial challenges experienced by some participants, who stated that it is expensive to follow a prescribed renal diet:

> *P19: “… well it’s expensive well you go for greens obviously something you not used to and you know how it is, well it’s cheaper to get a pizza than obviously cook a meal or something like that, ya it is a bit expensive.”* [34 years, male]
>
> *P3: “…yes, it’s expensive, that’s all.”* [29 years, female]
>
> *P8: “No, it’s just expensive.”* [33 years, male]

However, other participants offered an opposing perspective, and stated that the food is available and affordable, as they are eating more white meat. They said:

> *P9: "… It is available, it is available I don't think it is costly."* [55 years, female]
>
> *P13: "… No, it is cheap."* [56 years, female]
>
> *R: "And is it expensive?"*
>
> *P4: "Not really, because you eating mostly white meat...mostly I eat is chicken and fish."* [29 years, male]

4.3.2.2 Category: 2.2 Availability of food resources

The category 'Availability of food resources' emerged when participants shared their experiences related to buying certain food products. Some found it challenging to access the foods required for a prescribed renal diet, while others indicated that these foods are available at any shop. The following participants did not experience difficulties in finding the appropriate food items:

> *P4: "…I buy it from any shop, it doesn't matter."* [29 years, male]
>
> *R: "…Okay any other problems, is it easy to find?"*
>
> *P8: "Around where I am from yes it* [food] *is."* [33 years, male]

However, other participants indicated that these foods are not sold everywhere:

> *P15: "Ey, too many challenges, because they not selling everywhere and they too expensive, you have to budget."* [31 years, female]
>
> *P1: "Ey,* [long pause] *it's a big challenge, because if you are renal patient, if you are renal patient, sometimes when you are, it's difficult, because when you are a renal patient there's nothing to eat, there is less, less, less things. Err you can't buy anything from the shop because you got less things to eat."* [34 years, male]

Other participants elaborated further on the availability of food:

> *P13: "… Like sometimes if you want something you can't get it, like see the vegetables and all now you like too, sometime you don't get them."* [56 years, female]
>
> *P12: "… Ey, it's hard to get it and err most shops in our shops don't have the diet food only expensive shops you can get the diet food."* [41 years, male]
>
> *R: "Is it cheap, is it easy to find?"*
>
> *P6: "It's not easy to find, it's not easy."* [67 years, male]

4.3.2.3 Category: 2.3 Portion size too small

Adhering to a diet generally includes prescribed portion sizes, especially in cases where patients are obese or underweight. The category 'Portion size too small' emerged from participants' statements that they were experiencing challenges with the prescribed renal diet because the portions were small, as opposed to their pre-renal diet, where they used to eat larger meal portions. One participant took particular responsibility while at home to adhere to the small portion sizes, so that they would not find it difficult to adjust to small portions if they returned to hospital. The participants said:

> *P11: "…It's a new thing to eat small portion in my culture."* [64 years, male]
>
> *P19: "…Portions, well I don't eat much, since, well I stayed a lot here in hospital so well I have got used to it, because when I come back here, I don't want to struggle again so I try and reduce the portions."* [34 years, male]

4.3.3 Theme 3: Patient support in relation to diet adherence

From the third theme, *Patient support in relation to diet adherence*, two categories were derived from the data, namely 'Health education' and 'Family support of patients' dietary choices'. Adhering to a prescribed renal diet requires dedication and considerable support from the multi-disciplinary team, the family and significant others, which was evident in some instances in this study. Table 4.5 indicates the categories and subcategories related to the third theme.

TABLE 4.5 PATIENT SUPPORT IN RELATION TO DIET ADHERENCE

THEME	CATEGORY	SUBCATEGORY
Theme 3: Patient support in relation to diet adherence	3.1 Health education	3.1.1 Nurses' and doctors' health education of the patient 3.1.2 Dietician consultation and information given
	3.2 Family support of patients' dietary choices	3.2.1 Family understanding and encouragement of patients towards adherence
		3.2.2 Family participation in preparing a renal diet

4.3.3.1 Category: 3.1 Health education

The category 'Health education' emerged from the participants' descriptions of the important role played by health practitioners in providing information to patients receiving haemodialysis treatment. A renal diet has many limitations, and adherence to such a diet can be cumbersome and tiring. Health education on prescribed diets should be individualised to help meet each patient's needs, and should acknowledge that while it is normal at times not to adhere to the prescribed diet, it may have consequences, as illustrated by the following excerpt:

> *P19: "Well they told me about what not to eat and what to eat and ya, I try and stay to that but obviously we have some weaknesses, so you try and stick to that but when you eat something that's not right, you can feel it."* [34 years, male]

4.3.3.1.1 Subcategory: 3.1.1 Nurses' and doctors' health education of the patient

Nurses and doctors seemed to be quite involved in educating the participants about a renal diet. The content covered was related to fluid management, the type of food to be eaten, and the reduction of salt intake. All participants explained that they had received some type of health education at least once from a nurse, doctor or a dietician. They explained the importance of eating correctly, as not doing so made them feel unwell:

> *P19: "…Well they* [doctors and nurses] *told me about what not to eat and what to eat and ya, I try and stay to that but obviously we have some weaknesses, so you try and stick to that but when you eat something that's not right, you can feel it."* [34 years, male]

Another participant stated that he had only received health education from the doctor:

> *P14: "Aside from Doctor XX no one spoke to me."* [73 years, male]

Participants shared that the health education nurses provided was mainly about fluid and diet management:

> *P7: "...Err, basically err the staff* [nurses] *at HDU* [haemodialysis unit] *tell us about your hmm your food diet but also about your liquid diet as well, and how to maintain it correctly so that you don't overload and stuff like that and also they have like renal education as well err but that one goes quite in depth, but mainly I get like how to watch your fluid and how to, maintain that."* [35 years, male]

A participant explained they were advised not to eat salty food and to avoid certain fruit and fizzy drinks. She said:

> *P2: "…Because I am suffering with pressure and that caused my kidneys to fail therefore not allowed to eat salty foods and there is certain fruits that we can eat and they say that we must stay away from fizzy drinks especially Coke."*
>
> *R: "…Hmm… continue, certain fruits?"*
>
> *P2: "…We can't eat certain fruits which is citrus which is oranges and we can't bananas, avocados hmm...and when we do eat normal foods we have to have to eat a portion of it, we can't eat a big meal."* [34 years, female]

> *[Field notes P2: Participant smiles when talking about the nurses educating her].*

4.3.3.1.2 Subcategory: 3.1.2 Dietician consultation and information given

The inclusion of a dietician in the multi-disciplinary team caring for the patient, in order to provide advice to patients on their dietary consumption, is of the utmost importance. Dieticians have specialised knowledge on specific dietary restrictions, weight reduction and nutritional support, and they can educate the patient further on coping techniques to compensate for the lack of taste in the renal diet. The data showed that all participants had consulted a dietician at least once that some had seen a dietician up to three times, and that everyone had received dietary information leaflets. The participants had received advice on fluid management and the limitation of foods high in phosphorus and potassium. One participant shared his experience as follows:

> *P9: "... Erm the most important thing is well I have been told is your liquid intake, whatever you take in make sure it comes out of you, that's the most important thing, obviously it's your food intake as well, foods high in phosphorus and potassium."*
>
> *R: "Okay, what else, what other advice do you get on your diet, what foods are you supposed to eat what you say is high in phosphorus and potassium?"*
>
> *P9: "Well I do have a list of that so obviously high in potassium is like bananas, avocados, erm, mangos' peaches and stuff like that."* [55 years, male]

Another participant gave an account of how she was referred to a dietician and the information leaflets she received:

> *P2: "… I saw err the dietician when I was going to my previous base hospital, I was seen by a dietician there, when I started coming here for treatment. I was also referred to a dietician before I could start dialysis…They gave us leaflets*

> *to say how much we must eat. The portions we can eat and how to stay away from salt."* [34 years, female]
>
> *R: "Have you been referred to a dietician?"*
>
> *P5: "Yes."*
>
> *R: "How many times?"*
>
> *P5: "Twice."*
>
> *R: "Did they give you any information leaflets?"*
>
> *P: "Yes."* [32 years, female]

4.3.3.2 Category: 3.2 Family support of patients' dietary choices

The category 'Family support of patients' dietary choices' emerged from participants' descriptions of the support that they receive from their family members with regard to their prescribed renal diet and their diagnosis of ESRD. One participant stated that she had very little to no family support, but the others stated that they received tremendous support from their family members. The following quote illustrates that this participant was well supported, to such an extent that he became irritated with his family members' concern:

> *P7: "…Erm, they are very supportive, like if they* [the patient's family members] *see me eating something or even drinking something, nine out of ten times they will ask me, is it okay for you, or can you have this? I find it sometimes a bit annoying, but I understand where they coming from and the reason why they doing that. It also shows that they are educated and they want to be educated more but they asking questions. So even if it is something I am allowed to eat, they will ask me, are you allowed to eat it? My mother and sisters are a bit annoying as well, they frequently asking me questions about dialysis and my condition."* [35 years, male]

In contrast with the above narrative, the following participant's narrative indicates that his family was not supportive regarding his adherence to his renal diet, and they did not understand the need for a special diet:

> *P16: "…They* [the patient's sisters] *don't want to go the extra mile."*
>
> *R: "So whatever is cooked they give you to eat, so that's how they consider your condition regarding food, how do they consider your condition regarding food?"*
>
> *P16: "They say regarding my food the food, most of the food I am not supposed to eat is healthier for me than the food I'm supposed to eat."*
>
> *R: "They tell you that, so they are not clued up on a renal diet."*
>
> *P16: "They are, they know what I am supposed to eat because I gave them the papers on what I'm supposed to eat but still they don't want to listen…"* [43 years, male]

4.3.3.2.1 Subcategory: 3.2.1 Family understanding and encouragement of patient to adhere to the renal diet

Observations on the understanding and encouragement that a patient's family shows towards the patient's adherence to the renal diet arose from the participants' descriptions of how their families support them in terms of the type of food intake, and even how their children encourage their adherence to their prescribed diet. The following extracts illustrate how the patients' families understood their condition and supported them well:

> *R: "Okay, tell me more about how your family members consider your condition, regarding the food, do they understand about the food you eat?"*
>
> *P10: "Yes, my sister and my mum does especially oil and stuff."*
>
> *R: "Okay, and do they support you emotionally and financially?"*
>
> *P10: "Yes, they do."*

> *P20: "… they understand that the things that they have to cook for me and though even maybe if I start drinking some water too much, the kids even the small one, say dad don't drink too much, cos* [because] *you go back to the hospital."* [39 years, male]
>
> *[Field notes: P20 smiles, he appears relaxed, calm and happy when he speaks of his family's support. Facial expressions show that he appears happy during the interview.]*

A participant mentioned that her family would take care when buying the food she is allowed to eat:

> *R: "Do your family members, like, buy food and understand that they need to get things separate for you and these are things that you can eat, like buy fruits, do they understand like don't get bananas because you can't eat that?"*
>
> *P2: "Yes."*
>
> *R: "So tell me about that."*
>
> *P2: "Err… when they do buy things for me, they will ask me if I'm allowed to eat this or not, then only they will buy it."* [34 years, female]

4.3.3.2.2 Subcategory: 3.2.2 Family participation in preparing a renal diet

Family participation in preparing a renal diet was described as the extent of the family members' involvement in preparing the patient's food according to the renal diet. A participant explained that in some cultures, very young children are asked to prepare food at home, and the family involves children in the preparation of general meals. In the instance below, however, the participant explains how the children are not allowed to prepare meals, because they may not do it correctly in accordance with the renal diet:

> *P6: "…No they say, they don't want the small children must prepare my food, the old one must prepare because they know how to cook it and they read the*

> *papers that I brought from the dietician that how to cook my food."* [67 years, male
>
> *P11: "They understand I must, when they prepare my food they must not put too much oil, too much salt they must not put this soup."* [64 years, male]

4.4 DISCUSSION OF THE FINDINGS

This section presents a discussion of the findings supported by the literature, and focuses on the blood markers, cultural practices regarding diet, the family's cultural attitudes regarding the food challenges the patients experience with adherence to a renal diet, patient support in relation to adherence to their prescribed diet, and the application of Berlin and Fowkes's (1983) LEARN framework.

4.4.1 Blood markers

Although this study did not intend to determine the relationship between the blood markers and a prescribed diet, the findings may indicate that non-adherence to the prescribed diet could have contributed to the participants' high phosphate and potassium levels. For example, Participant 14's potassium and phosphate levels were 7.3mmol/dL and 2.77mmol/dL, which are significantly high. Participant 14 reported that he ate anything and did not adhere to a renal diet. Daugirdas et al (2015:16) explains that with a renal diet, foods high in phosphate should be avoided. In a national survey conducted in the US, it was found that 58% of patients receiving dialysis treatment did not adhere to the prescribed diet, as they felt it was hard to follow and that they needed a break from such restriction (American Kidney Fund, 2018).

4.4.2 Cultural practices regarding diet

The participants living on haemodialysis treatment had specific cultural practices regarding food and diet. They described how their cultural practices, guided by their religion, determined what they were permitted to eat or were prohibited from eating. Muslims are prohibited from eating pork or any food that is not prepared according to Halal processes, while Hindus and African people also do not eat pork due to longstanding cultural practices. Some practices have been passed from generation to generation. Ameh et al (2016) concur with this finding regarding the food choices of coloured and Indian South Africans, as they are influenced by Muslim and Hindu religious and cultural practices. Islam is especially strict on food that is not prepared in a Halal manner, which Muslims are prohibited from eating. Verseput and Piccoli (2017:2) state that South Africa is a complex country, with various ethnic groups, each having its own culture and food preference. Thus, nurses and other health care workers need to consider these aspects when discussing adherence to the prescribed diet with patients receiving dialysis treatment. Tools such as Verseput and Piccoli's (2017:2) visual tool for the nutritional treatment of CKD patients, specifically for the South African context, could assist in educating patients regarding their health and their prescribed diet.

4.4.3 Family's cultural attitudes regarding food

The participants described their families' opinions on culture and food choices. They mentioned certain types of food that family members avoided and the reasons why they avoided those foods. The reasons included health-related myths, such as fish and pork being demonically possessed. The family members of some participants also had negative views on a renal diet, commenting that adhering to the prescribed diet can cause the participant to lose weight and become ill. A family member encouraged a participant to stop eating fish, which is a good source of protein. These views could have a negative impact on the participants' treatment. A participant stated that in his culture they often prepare food by boiling it, because the food is healthier that way. A study conducted by Onbe et al (2013:90) on changes of attitude towards diet on the part of patients receiving dialysis treatment, found that family culture, dietary culture and the use of information are important influential aspects. Another participant commented that going to family gatherings was becoming difficult because his family did not understand the renal diet and how it conflicted with his culture. He was questioned by his family about following the renal diet, because in his culture eating so little is not the norm.

It is evident that family perceptions regarding food, and family members' understanding of what haemodialysis treatment entails, determine the level of support they provide to the participants, and therefore the participants' food choices. In some instances, the participants were well supported by their families, but those who were not well supported found it difficult to adhere to the prescribed renal diet. Strong social support from family and friends has been reported to significantly improve patients' quality of life by improving adherence to therapy (D'Onofrioe, Simeonia, Rizzab, Caroleob, Capriaa, Mazzitelloc, Saccoa, Mazzucad, Panzinoe, Cerantonioa, Segura-Garciab, Andreuccia, De Faziob & Fuianoa 2017:50).

4.4.4 Challenges patients experience with adherence to a renal diet

Participants living on haemodialysis described the challenges they experienced in adhering to a renal diet. These included financial constraints, lack of availability of food, and having to limit themselves to small portion sizes. Participants had mixed views on the financial implications of the renal diet. Some participants felt that the renal diet was really expensive, whereas others felt that it was inexpensive. Sullivan, Pencak, Freedman, Humi, Leon, Nemcek, Theurerand Sehgal (2017:184) state that food items for a renal diet are cheaper than the food items of an unrestricted diet, however affordability is obviously related to a person's financial status. A study that was conducted in India about knowledge, attitudes and behaviours that relate to adherence to a dietary regimen, found that social and financial support are important aspects to consider (Shailendranath & Kedlaya 2014:261).

A range of views regarding food availability were expressed. Food required for a renal diet can be purchased at most grocery stores, but the cost was regarded as a hindrance. Some participants reported that the foods required for a renal diet were only available at expensive shops, but others reported that they could purchase the foods at any shop. Daepp (2015:219) finds that high-income areas have substantially higher levels of availability of diet food, and also argues against the accessibility of foods for renal diets by explaining that even if fresh produce and other healthy foods are available, the ability to access these foods remains restricted if they are too costly for people to purchase (2015:210). Though the participants in this study expressed a variety of views regarding the availability and cost of appropriate food items, Verseput and Piccoli (2017:2) suggest that in low socio-economic populations one should consider that most patients' diets have insufficient high-quality protein, vegetables and fruit.

From the data gathered it was evident that the participants and their family members had different opinions regarding the appropriate portion size of a renal diet. Participants felt that the portion sizes were too small, and that the portions did not satisfy their appetites, but some did try to adjust to the portion sizes, although with some difficulty. Beto et al (2016:22) explain that diet elements must be controlled in ESRD. These typically include calories, protein (the type as well as the amount), sodium, potassium, calcium, phosphorus, and fluids. Beto et al (2016:23) further explain that there are dietary challenges in terms of both meeting nutrient requirements and adjusting dietary elements to daily food intake. Avoiding consuming large portions of protein at any one time will prevent an intense urea cycle with limited capacity resulting in hyperammonaemia, which may result, in abnormal movements, shaking of the hands or arms, agitation, disorientation, drowsiness or confusion. These clinical manifestations would indicate increased levels of waste products.

Another point of concern was related to family members' discouragement of the participants when family members stated that small portion sizes could be the cause of the participants' weight loss. These family members did not understand that the small portion sizes are a necessary part of the disease management, and did not understand how beneficial it was for the participants to adjust their eating habits and eat smaller portion sizes. Family members should therefore be included when patients receive education regarding their adherence to a renal diet, as their family members are their biggest support system. Hong, Wang, Chan, Mohamed and Chen (2017:3669) emphasise that family support is the core support system that promotes positive adherence behaviours. Hong et al (2017:3673) further state that family support is significant in promoting and motivating patients to adhere to their dietary and fluid guidelines. However, it may be a challenge for families to adapt their meal-time practices and try to incorporate therapeutic diets into family meals (Morris, Love, van Aar, Liles & Roskell 2017:2). Mitch and Remuzzi (2016:25) report that designing the optimal diet for patients with CKD is difficult because of interrelationships among different nutrients.

4.4.5 Patient support in relation to diet adherence

Participants described the support in relation to diet adherence that they received from the multi-disciplinary team and from family members in terms of food choices. There were different levels of involvement shown by family members in relation to participants' dietary choices; some participants explained that they received overwhelming support, whereas others received minimal support.

4.4.5.1 Health education

Participants described their views regarding the ongoing education that they received from both doctors and nurses on adherence to a renal diet. They also described the type of education they received and what foods they could and could not eat, as well as what they learned about fluid restriction. Participants stated that they had all been referred to a dietician at least once during the course of their dialysis treatments; some participants followed up on these referrals, and all received information leaflets on the types of foods that they should include in their diet.

Hong et al (2017:3670) emphasise that health care professionals, such as dieticians, are significant role players in explaining and communicating the recommended dietary and fluid restrictions to patients, and continue to influence the patients' behaviour long after their discharge from the hospital setting. Adherence can be accomplished when patients understand the disease and its consequences, and take greater responsibility in the management of their medical condition. Participants described the information the dietician gave them and how they worked together with the dietician to formulate a dietary plan. Commencing with dialysis treatment can be overwhelming, and the associated food restrictions can be especially difficult to understand and implement. Education of the patients and their families by dieticians is one of the best ways of helping dialysis patients to adjust (Yeager 2011:38).

Being educated and informed on all aspects of an illness is of critical importance for enhancing patients' self-care, and dialogue between the patient and physician, nurse, or dietician remains the favoured method for imparting knowledge regarding ESRD. Educating and informing patients can strengthen discussions during clinical follow-up visits. The role of nurses in providing relevant health education regarding adherence to the prescribed diet has been highlighted; however, they need to understand a patient's culture and attitude (Onbe et al 2013:94). Nurses are in an ideal position to reinforce and emphasise the health information provided by a dietician, as they continuously care for patients during their dialysis sessions.

4.4.5.2 Family support in relation to patients' dietary choices

From the data gathered it was evident that the participants received various levels of support from their family members. The families of many of the participants offered understanding and encouragement with regard to the participants' adherence to their renal diet, and often assisted the participants in preparing meals and buying the correct food items. However, there were some participants who had no support from their families. Family support helps patients to cope better with their condition. The importance of family support is emphasised by Beto et al (2016:30), who suggest the sharing of recipes to sensitise family members to their role in supporting patients' adherence to the ESRD diet. Patients who live in a family context of supportive interdependence can greatly improve their compliance with dialysis treatment, drug therapy, and the prescribed diet (D'Onofrioe et al 2017:50). However, Morris et al (2017:1) argue that a sense of equilibrium between nurturing the family as a whole and the demands of tending to the particular needs of one person with renal failure can be challenging. Meuleman, Brinke, Kwakernaak, Vogt, Rotmans, Bos, van der Boog, Navis, van Montfrans, Hoekstra, Dekker and van Dijk (2015:531) explain that patients need adequate socialisation because it is associated with adherence to medical treatment, to chronic illness self-management, and to dietary behaviour.

4.5 APPLICATION OF THE LEARN FRAMEWORK TO PROVIDING CULTURALLY SENSITIVE HEALTH EDUCATION

During the interview process with the study participants, the researcher noted how the LEARN framework (Berlin & Fowkes 1983:934) could facilitate the provision of culturally sensitive health education regarding a prescribed diet for patients living on haemodialysis. This framework was initially developed to guide health care providers’ communication in a multicultural setting. The acronym LEARN represents the following: L – Listen with sympathy and understanding to the patient’s perception of the problem; E – Explain your perceptions of the problem; A – Acknowledge and discuss the differences and similarities; R – Recommend treatment; N – Negotiate agreement.

When providing health education, a nurse should be sensitive and sympathetic to patients’ cultural and religious orientations, and should practise attentive listening (L) to their views. For example, in this study the Muslim participants only eat food that is prepared according to Halal requirements, and are prohibited from eating pork, while some other participants also do not eat pork for cultural reasons. Careful consideration should be given to these participants, and to their religious and cultural family beliefs that influence their food choices, such as the idea that fish and pork are demonic.

When the nurse rephrases and explains (E) the patient’s perspective on specific challenges, the nurse’s perceptions of the issue are then verbalised, and any differences and similarities between the patient’s and the nurse’s perspectives can be acknowledged (A). This could be applied, for instance, when the nurse affirms a patient’s statement that they do not believe in eating pork, and demonstrates an understanding of the reasons why.

Following this step, the nurse could recommend (R) alternative food choices such as fish, chicken, and other proteins. The final step in providing culturally sensitive health education is to negotiate agreement (N). In this context, it would entail agreement on the advice provided that is acceptable for the patients living on haemodialysis and for the nurse providing advice, such as not eating pork but including other proteins such as chicken. Since it is challenging for patients who are receiving dialysis treatment to adhere to the renal diet, agreement on the advice and recommendations is important, as it increases the possibility of adherence.

The LEARN framework seems to be easy to use, and could assist nurses and other health care practitioners in proving culturally sensitive health education.

4.6 CONCLUSION

In this chapter the findings of the study were presented and discussed. The findings were derived from the participants' narratives of their practices and perceptions with regard to culture and its influence on their adherence to the renal diet. The themes that emerged were *Cultural practices and adherence to the renal diet*, *Challenges patients experience with adherence to a renal diet,* and *Patient support in relation to diet adherence*. The research findings were integrated with the literature to illustrate any similarities and differences in the discussion of the perceptions of ESRD patients living on haemodialysis with regard to how cultural practices influence their adherence to the renal diet. In addition, the application of Berlin and Fowkes's (1983) LEARN framework to assist health care workers in providing culturally sensitive health education was discussed.

Chapter 5 presents an overview of the study, the conclusions relating to the study findings, the recommendations based on these conclusions, and the limitations of the study, followed by final concluding remarks.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS AND LIMITATIONS

5.1 INTRODUCTION

Chapter 4 presented and described the findings from the data obtained through semi-structured interviews conducted with 20 ESKD patients living on haemodialysis. The data was categorised into themes, categories and subcategories, and it was shown how the findings were supported or challenged by the literature. This chapter concludes the study by providing an overview of the findings. It further provides recommendations about health education in practice, nursing education and further research, followed by an acknowledgement of the limitations of the study and final concluding remarks.

5.2 OVERVIEW OF THE STUDY

The purpose of this study was to improve the health education on adherence to a prescribed diet, given to patients living on haemodialysis at a haemodialysis unit in the eThekwini Metropolitan Municipality.

The objectives of the study were:

- To explore the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis.
- To describe the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis.

The study adopted a qualitative, exploratory and descriptive approach. Twenty (20) participants from a haemodialysis unit participated in this study, and shared their dietary practices and challenges regarding their adherence to the prescribed renal diet. Elo and Kyngä's (2008:111) content analysis guidelines were adopted and followed to analyse the data. The data analysis produced three themes: *Cultural practices and adherence to the renal diet*, *Challenges patients experience with* *adherence to a renal diet* and *Patient support in relation to diet adherence*, with associated categories and subcategories. Rigour was established by means of striving for credibility, dependability, confirmability, transferability and authenticity, according to Lincoln and Guba's (1985) guidelines. Throughout the study, the researcher also adhered to the ethical principles of justice, beneficence, scientific integrity, and protecting the rights of the participants and the researcher's institution.

5.3 CONCLUSIONS RELATING TO THE STUDY FINDINGS

In order to address the purpose and objectives of the study, the conclusions related to the study findings are presented below, structured according to the three main themes that emerged from the data.

5.3.1 Cultural practices and adherence to the renal diet

The participants' adherence to a prescribed renal diet was influenced by religious and cultural practices, and by their family's perceptions and attitudes towards food. Participants living on haemodialysis had challenges with adhering to cultural and religious beliefs, such as not eating pork. Incorporating a renal diet into their daily lives, considering the cultural and religious views being imposed on them, was in some circumstances challenging. Certain family members were concerned about the participants' adherence to the renal diet as they believed that the diet causes weight loss and that the medication would be ineffective. This view influenced certain participants' adherence to a renal diet, thereby adversely affecting their treatment. Some participants' blood results showed an increase in potassium and phosphate levels, which could be related to diet non-adherence. Considering this evidence, nurses should be sensitive to patients and their family's religion and cultural practices when providing health education regarding a renal diet.

5.3.2 Challenges patients experience with adherence to a renal diet

Participants described the various challenges that they experienced in adhering to a renal diet. These included the cost involved, the availability of recommended foods, and the portion size, which was considered too small. The financial implications depended entirely on each participant's financial status, and their associated perceptions regarding the cost involved. Some participants felt that the renal diet was very expensive according to their financial means, while others found it affordable. The lack of availability of recommended foods was another challenge expressed by some participants, but again, this perception varied, and was dependent on the participant's geographic location and on their perception of the affordability of the recommended food items. Another challenge that some participants faced was the portion size of a renal diet. They found it rather challenging to adapt to the new smaller portions, since they were used to eating much larger portions prior to developing ESRD. However, there were participants who had no difficulty in adapting to the portion size.

Having background information on patients who are living on haemodialysis seems to be important. Knowing patients' social backgrounds in terms of their place of residence, their financial means, and their habits and perspectives on food, such as portion sizes, would assist nurses when providing health education regarding a renal diet. However, it would need to be the patient's choice to provide such personal information.

5.3.3 Patient support in relation to diet adherence

The participants shared their views regarding the support they received in relation to adhering to a renal diet. The support they received included health education and support from their family members. Some participants reported that they had received guidance from a dietician on portion sizes and how to reduce their sodium intake, and also indicated that they had attended follow-up consultations with the dietician to assist them with their new diet plan. Other participants stated that they had received health education only from a doctor, while nurses had emphasised the importance of adhering to the prescribed diet.

Participants received varied support from their families. Certain participants received overwhelming support, whereas other participants reported receiving very little to no support from family members. The participants who received a high level of support explained that the help and encouragement that the extra family support offered them made adhering to a renal diet much easier for them.

All health care workers, especially nurses who are caring for patients living on haemodialysis, need to realise their role in providing health education, and need to take into account the level of involvement and support for the renal diet shown by each patient’s family. Health care professionals, especially nurses, should provide health education according to each patient’s individual needs. Berlin and Fowkes’s (1983) LEARN framework — which emphasises listening (L), explaining or rephrasing (E), acknowledging (A) the patient’s needs, and recommending (R)interventions based on negotiating (N) the unique needs of the patient and the required intervention (diet adherence) — could be used to provide culturally and contextually sensitive health education.

5.4 RECOMMENDATIONS

Based on the findings of this research, the researcher recommends the following:

5.4.1 Recommendations regarding patients’ health education

It is recommended that:

- Patients living on haemodialysis ought to receive regular health education on what a renal diet entails, and that this health education should take their cultural practices and religion into consideration. The importance of adherence should be emphasised.
- When providing health education regarding diet adherence, health care professionals, especially nurses, should consider a patient’s socio-economic background and the level of family support they receive.

- A multi-disciplinary team approach should be adopted for patient education. The team should include the patient and their family, a dietician, a nurse, and a doctor, who collaboratively design a diet plan that is easy for patients (and their families) to adhere to. This team approach can be achieved by inviting patients and their families to engage with dieticians, nurses and doctors at open days, workshops and support groups.
- Berlin and Fowkes's (1983) LEARN framework should be incorporated into the devised teaching plan to improve communication between the health care personnel and patients. The transcultural theory of Leininger (1995) could also be applied in the health education programmes.
- Culturally and religiously sensitive information leaflets on renal diet adherence should be created and distributed as additional information to patients receiving haemodialysis.

5.4.2 Recommendations for future research

It is recommended that further research be conducted on the following topics:

- A quantitative study to determine the diet adherence of different cultures in the same context would provide more objective evidence.
- A quantitative study to determine the diet adherence of patients who are living on haemodialysis, after receiving culturally sensitive health education, using Berlin and Fowkes's (1983) LEARN framework.
- A quantitative study to determine the influence of food availability and diet adherence in rural versus urban communities.
- A quantitative study comparing blood markers of haemodialysis patients before and after culturally sensitive health education is provided.

5.4.3 Recommendations for nursing education

- Nurses should be given opportunities to participate in ongoing education on renal dietary management to improve their competence in providing culturally sensitive health education.
- The importance of cultural and religious aspects when providing health education to patients regarding their diet should be emphasised in the nursing curriculum.
- Creating simulated, role-playing opportunities for nurses to practise culturally and religiously sensitive health education on renal diet requirements could assist nurses in developing the required competencies.

5.5 LIMITATIONS OF THE STUDY

The study was conducted in one haemodialysis clinic at one specific hospital, in the eThekwini Metropolitan Municipality, KwaZulu-Natal, South Africa. The findings cannot therefore be generalised to all ESRD patients living on haemodialysis, but the study does provide a detailed description of patients' diet-adherence practices in this specific context.

The researcher is part of a multi-disciplinary team that provides health services to the participants, and this could have influenced the participants' responses to the researcher's questions and probing for answers during the interviews. However, some of the interviews were conducted by a moderator, who had similar experience but was not known by the participants, to determine whether different information would emerge from the participants. When analysing the data, similar information was found in the moderated interviews. In addition, the researcher used bracketing during the interviews to limit researcher bias.

5.6 CONCLUDING REMARKS

To conclude, this study has explored and described the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis. It was found that cultural practices, religion, financial means, food availability, health education, and family support and involvement influenced patients' adherence to a renal diet. The implementation of recommendations for providing regular culturally sensitive health education on diet adherence to patients receiving dialysis treatment is considered critical. Equally, the consistent involvement and collaboration of the nephrology multi-disciplinary team, in the management and adherence of patients living on haemodialysis, could be valuable in optimising patients' adherence to a renal diet.

The researcher can therefore conclude that the objectives of this study — to explore and describe the cultural practices regarding adherence to a prescribed diet, of patients living on haemodialysis — have been achieved.

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ADDENDUM A: SEMI-STRUCTURED INTERVIEW GUIDE

Semi-structured interview guide for the study: Cultural practices and diet adherence of patients living on haemodialysis.

Interview no:			
Date of interview:	DAY	MONTH	YEAR
Time of interview:	Start	Finish	

SECTION 1
Biographical data:

The interviewer will use an (X) in the appropriate box indicated for the response from the

Interviewee.

1 Gender

Male	
Female	

2 Age:

Question: how old are you?

1	Below 19 years	
2	20-29	
3	30-39	
4	40-49	
5	50-59	
6	Above 60 years	

<table>
<tr><td>3</td><td>Nationality:
Question: what is your nationality?</td></tr>
<tr><td>4</td><td>Educational level:
Question: What is your highest qualification?
<table>
<tr><td>Tertiary Education</td><td></td></tr>
<tr><td>Matriculated</td><td></td></tr>
<tr><td>Above standard 8</td><td></td></tr>
<tr><td>Below standard 8</td><td></td></tr>
</table></td></tr>
<tr><td>5</td><td>How long are you receiving dialysis therapy?</td></tr>
<tr><td>6</td><td><i>To be completed by the researcher:</i>
Latest monthly blood results
<table>
<tr><td>Potassium level</td><td>Phosphate level:</td></tr>
</table></td></tr>
</table>

SECTION 2

<table>
<tr><td colspan="2">Cultural Background:
These questions are optional however, the information will assist the researcher to understand the challenges with regard to diet better.</td></tr>
<tr><td>1</td><td>Which language do you speak?</td></tr>
<tr><td>2</td><td>What religion do you belong to?</td></tr>
<tr><td>3</td><td>What ethnic group do you belong to?</td></tr>
</table>

SECTION 3

Central Question:

“Please tell me more about your diet you follow, since you received dialysis treatment?”

Please tell me about the advice you get on your diet when you come for dialysis. Have you been referred to a dietician?

(The conversation may lead to the following probing questions)

Possible probing questions:

- Please tell me more about your diet you follow, since you received dialysis treatment?

- Who prepares your meals for you at home?
- Are your meals prepared for separately, or is one meal cooked for everyone at home?

- Tell me about your family members’ understanding of your condition.
- Tell me more about how your family members consider your condition regarding food.
- Please tell me more about the different kinds of food your family eat or not eat?
- How do you think the food you eat influences your condition?

- Tell me more about your beliefs with regard to food/diet in your culture?

- Tell me what challenges you experience when buying the food for a renal diet.
- Please tell me what other challenges you experience regarding your diet.

(The probing questions may be followed by any of the following clarification probes.)

Clarification probes:

- What do you mean by...?
- Can you tell me a more about...?
- Are there any reasons why do you think …?
- Can you give me example/s of that…?
- Anything you would like to add...?

We have come to the end. Thank you for your time to participate in this research project.

ADDENDUM B: INFORMED CONSENT

INFORMATION LEAFLET AND INFORMED CONSENT

RESEARCH PROJECT TITLE: CULTURAL PRACTICES AND DIET ADHERENCE OF PATIENTS LIVING ON HAEMODIALYSIS

Primary investigator: Verosha Ramkelawan

Study Leader: Dr H C de Swardt

Dear Research Participant,

You are invited to participate in a research study that forms part of my formal Masters studies. This information leaflet will help you to decide if you would like to participate. Before you agree to take part, you should fully understand what the study is about. You should not agree to take part unless you are completely satisfied with all aspects of the study.

WHAT IS THE STUDY ALL ABOUT?

The purpose of this study was to improve the health education on diet adherence given to patients living on haemodialysis, at a haemodialysis unit in the eThekwini Metropolitan Municipality.

WHAT WILL BE REQUIRED OF YOU TO DO IN THE STUDY?

If you decide to take part in the study, you will be required to do the following:

- To sign the informed consent form.
- Have a face-to-face interview for more or less 30 minutes, about your diet while receiving haemodialysis treatment. Your latest blood results will also be needed from your records. The unit manager will help the researcher to get the information.
- You will be informed of the venue and date, convenient for you when the interview will take place.

CAN ANY OF THE STUDY PROCEDURES RESULT IN PERSONAL RISK, DISCOMFORT OR INCONVENIENCE?

The researcher does not foresee any risks while asking the questions; however, should you feel tired and need help with your condition; you will be referred to a person that could help you.

WHAT ARE THE POTENTIAL BENEFITS THAT MAY COME FROM THE STUDY?

The benefit of the interview is that it would help health care workers to give health education about diet that will fit the specific needs of patients receiving dialysis treatment. The findings of this study could help with other research studies.

WILL YOU RECEIVE ANY FINANCIAL COMPENSATION OR INCENTIVE FOR PARTICIPATING IN THE STUDY?

Please note that you will not be paid to participate in the study.

WHAT ARE YOUR RIGHTS AS A PARTICIPANT IN THIS STUDY?

Your participation in this study is entirely voluntary and you are under no obligation to participate. Your future treatment will not be affected by taking part in this study or by refusing to take part in the study. You have the right to withdraw at any stage without providing any reason for your decision.

HOW WILL CONFIDENTIALITY AND ANONYMITY BE ENSURED IN THE STUDY?

All the data that you provide during the study will be handled confidentially. This means that access to your data will be strictly limited to the researcher, the moderator and the supervisor of the study and the designated examiners (appointed by University of South Africa). The study data will be coded so that it will not be linked to your name. Your identity will not be revealed when the study is reported in scientific journals. All the data sheets that have been collected will be stored in a secure place.

IS THE RESEARCHER QUALIFIED TO CARRY OUT THE STUDY?

The researcher is a qualified Nephrology nurse practitioner with 7 years of experience in the field of renal and dialysis and is being supervised by qualified study leaders at the University of South Africa.

WHO CAN YOU CONTACT FOR ADDITIONAL INFORMATION REGARDING THE STUDY?

The primary investigator, Mrs Verosha Ramkelawan, can be contacted during office hours at (031) 2401252. The study leader, Dr H C de Swardt, can be contacted during office hours at (012) 429 4506 or e-mailed at dswarhc@unisa.ac.za. This study has been approved by the University of South Africa, Department of Health Studies Research Ethics Committee. Should you wish to report any problems you have experienced in relation to the study, please contact Prof J Maritz, the Head of the Department of Health Studies' Ethics Committees, on 082 788 8703 or E-mail: maritje@unisa.ac.za.

DECLARATION: CONFLICT OF INTEREST

The study will be funded by the researcher and has no conflict of interest.

A FINAL WORD

Your co-operation and participation in the study will be greatly appreciated. Please sign the underneath informed consent if you agree to participate in the study. In such a case, you will receive a copy of the signed informed consent from the researcher.

I hereby confirm that I have been informed by the researcher about the nature, conduct, benefits and risks of the study. I have also received, read and understood the above written information.

I am aware that the results of the study will be anonymously processed into a research report.

I may, at any stage, without prejudice, withdraw my consent and participation in the study. I declare myself prepared to participate in the study.

Participant’s name (Please Print) ______________________________________

Signature___________________ Date:_____________

Researcher’s name: Verosha Ramkelawan

Signature___________________ Date: _____________

ADDENDUM C: ETHICAL APPROVAL: RESEARCH ETHICS COMMITTEE

UNISA university of south africa

RESEARCH ETHICS COMMITTEE: DEPARTMENT OF HEALTH STUDIES
REC-012714-039 (NHERC)

7 February 2018

Dear Verosha Ramkelawan

Decision: Ethics Approval

HSHDC/832/2018
Verosha Ramkelawan
Student no:5040-642-6
Supervisor: Dr HC de Swardt
Qualification: D Litt et Phil
Joint Supervisor: -

Name Verosha Ramkelawan

Proposal: Cultural practices and diet adherence of patients living on haemodialysis

Qualification: **MPCHS94**

Thank you for the application for research ethics approval from the Research Ethics Committee: Department of Health Studies, for the above mentioned research. Final approval is granted from 7 February 2018 to 7 February 2020.

The application was reviewed in compliance with the Unisa Policy on Research Ethics by the Research Ethics Committee: Department of Health Studies on7 February 2018.

The proposed research may now commence with the proviso that:

1) *The researcher/s will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.*

2) *Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study, as well as changes in the methodology, should be communicated in writing to the Research Ethics Review Committee, Department of Health Studies. An amended application could be requested if there are substantial changes from the existing proposal, especially if those changes affect any of the study-related risks for the research participants.*

3) *The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study.*

RECEIVED
2018 -02- 14
Executive Dean
College of Human Sciences

University of South Africa
Preller Street, Muckleneuk Ridge, City of Tshwane
PO Box 392 UNISA 0003 South Africa
Telephone: +27 12 429 3111 Facsimile: +27 12 429 4150
www.unisa.ac.za

4) [Stipulate any reporting requirements if applicable].

Note:

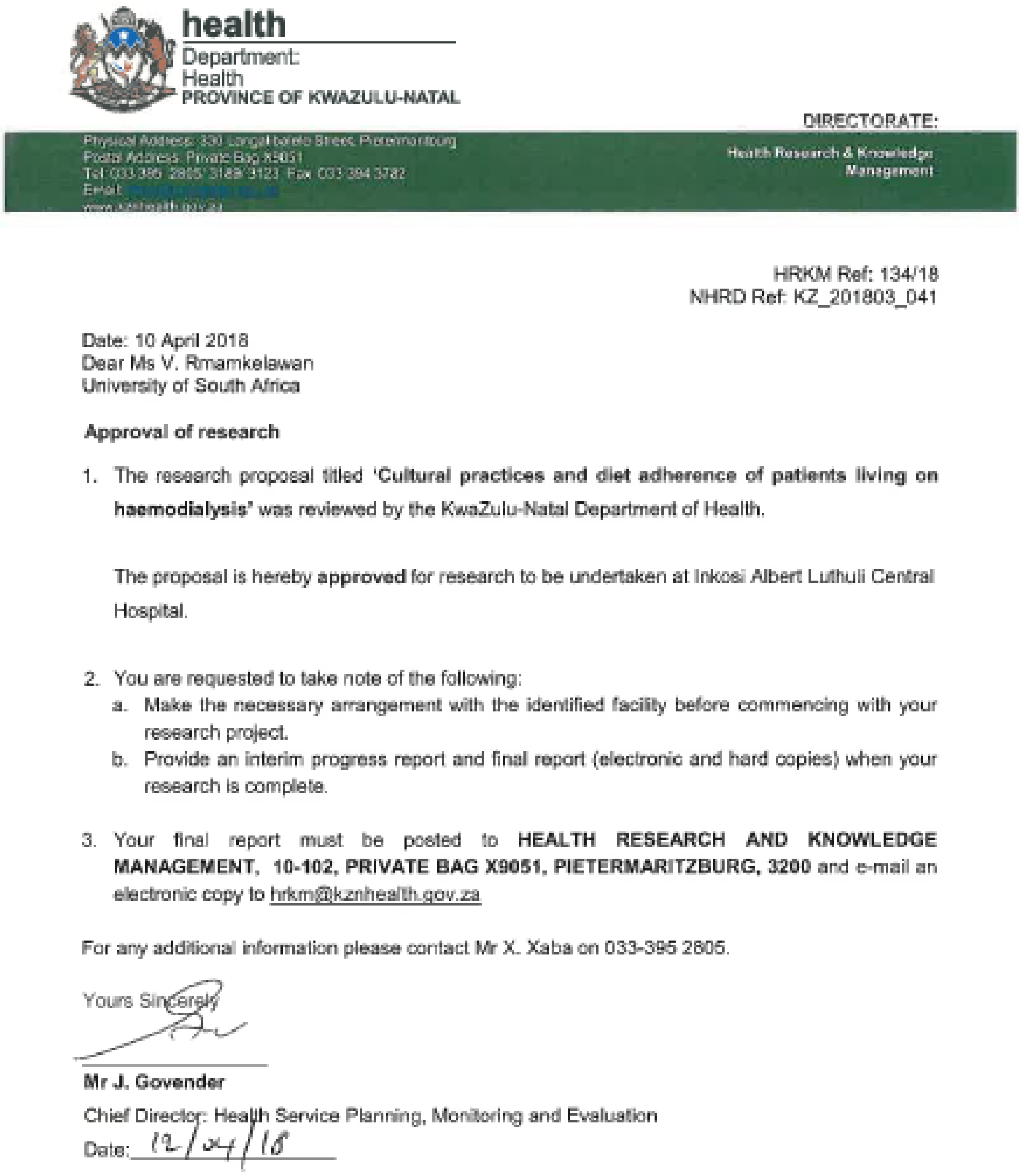
The reference numbers [top middle and right corner of this communiqué] should be clearly indicated on all forms of communication [e.g. Webmail, E-mail messages, letters] with the intended research participants, as well as with the Research Ethics Committee: Department of Health Studies.

Kind regards,

Prof JE Maritz	Prof MM Moleki
CHAIRPERSON	ACADEMIC CHAIRPERSON
maritje@unisa.ac.za	molekmm@unisa.ac.za

Prof A Phillips
DEAN COLLEGE OF HUMAN SCIENCES

ADDENDUM D: RESEARCH APPROVAL: DEPARTMENT OF HEALTH KWAZULU-NATAL



health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:

Physical Address: 330 Langalibalele Street, Pietermaritzburg
Postal Address: Private Bag X9051
Tel: 033 395 2805/ 3189/ 3123 Fax: 033 394 3782
Email: [illegible]
www.kznhealth.gov.za

Health Research & Knowledge Management

HRKM Ref: 134/18
NHRD Ref: KZ_201803_041

Date: 10 April 2018
Dear Ms V. Rmamkelawan
University of South Africa

Approval of research

1. The research proposal titled '**Cultural practices and diet adherence of patients living on haemodialysis**' was reviewed by the KwaZulu-Natal Department of Health.

   The proposal is hereby **approved** for research to be undertaken at Inkosi Albert Luthuli Central Hospital.

2. You are requested to take note of the following:
   a. Make the necessary arrangement with the identified facility before commencing with your research project.
   b. Provide an interim progress report and final report (electronic and hard copies) when your research is complete.

3. Your final report must be posted to **HEALTH RESEARCH AND KNOWLEDGE MANAGEMENT, 10-102, PRIVATE BAG X9051, PIETERMARITZBURG, 3200** and e-mail an electronic copy to hrkm@kznhealth.gov.za

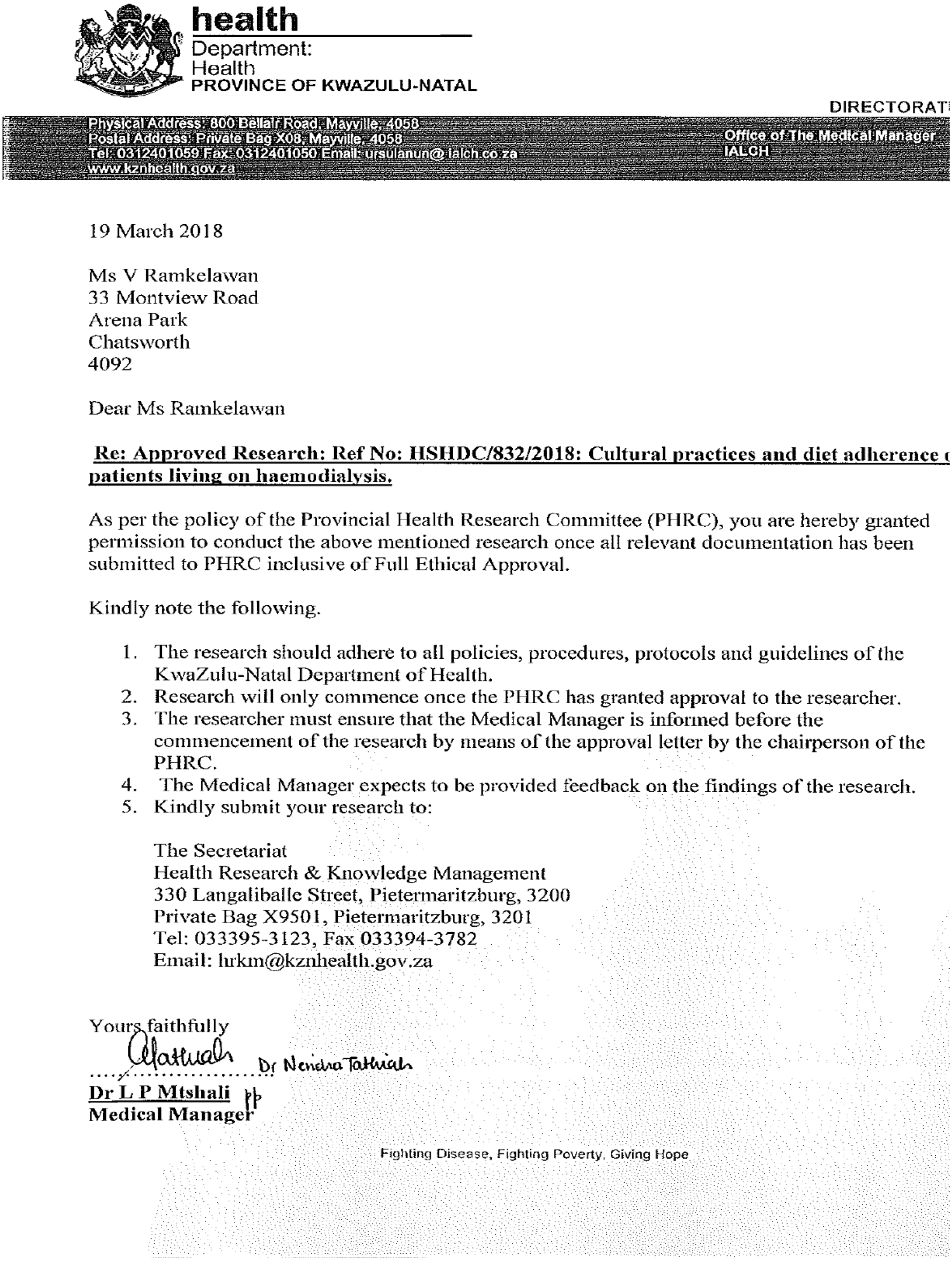
For any additional information please contact Mr X. Xaba on 033-395 2805.

Yours Sincerely

Mr J. Govender
Chief Director: Health Service Planning, Monitoring and Evaluation
Date: 12/04/18

Fighting Disease, Fighting Poverty, Giving Hope

ADDENDUM E: RESEARCH APPROVAL: HOSPITAL CEO



health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORAT

Physical Address: 800 Bellair Road, Mayville, 4058
Postal Address: Private Bag X08, Mayville, 4058
Tel: 0312401059 Fax: 0312401050 Email: ursulanun@ ialch.co.za
www.kznhealth.gov.za

Office of The Medical Manager
IALCH

19 March 2018

Ms V Ramkelawan
33 Montview Road
Arena Park
Chatsworth
4092

Dear Ms Ramkelawan

Re: Approved Research: Ref No: HSHDC/832/2018: Cultural practices and diet adherence
patients living on haemodialysis.

As per the policy of the Provincial Health Research Committee (PHRC), you are hereby granted permission to conduct the above mentioned research once all relevant documentation has been submitted to PHRC inclusive of Full Ethical Approval.

Kindly note the following.

1. The research should adhere to all policies, procedures, protocols and guidelines of the KwaZulu-Natal Department of Health.
2. Research will only commence once the PHRC has granted approval to the researcher.
3. The researcher must ensure that the Medical Manager is informed before the commencement of the research by means of the approval letter by the chairperson of the PHRC.
4. The Medical Manager expects to be provided feedback on the findings of the research.
5. Kindly submit your research to:

   The Secretariat
   Health Research & Knowledge Management
   330 Langaliballe Street, Pietermaritzburg, 3200
   Private Bag X9501, Pietermaritzburg, 3201
   Tel: 033395-3123, Fax 033394-3782
   Email: hrkm@kznhealth.gov.za

Yours faithfully

Dr Nerisha Tathiah
....

Dr L P Mtshali pp
Medical Manager

Fighting Disease, Fighting Poverty, Giving Hope

health
Department:
Health
PROVINCE OF KWAZULU-NATAL

DIRECTORATE:

Physical Address: 800 Bellair Road, Mayville, 4058
Postal Address: Private Bag X08, Mayville, 4058
Tel: 0312401059 Fax: 0312401050 Email: ursulanun@ialch.co.za
www.kznhealth.gov.za

Office of The Medical Manager
IALCH

Reference: HSHDC/832/2018
Enquiries: Medical Management

19 March 2018

Ms V Ramkelawan
33 Montview Road
Arena Park
Chatsworth
4092

Dear Ms Ramkelawan

RE: PERMISSION TO CONDUCT RESEARCH AT IALCH

I have pleasure in informing you that permission has been granted to you by the Medical Manager to conduct research on: **Cultural practices and diet adherence of patients living on haemodialysis.**

Kindly take note of the following information before you continue:

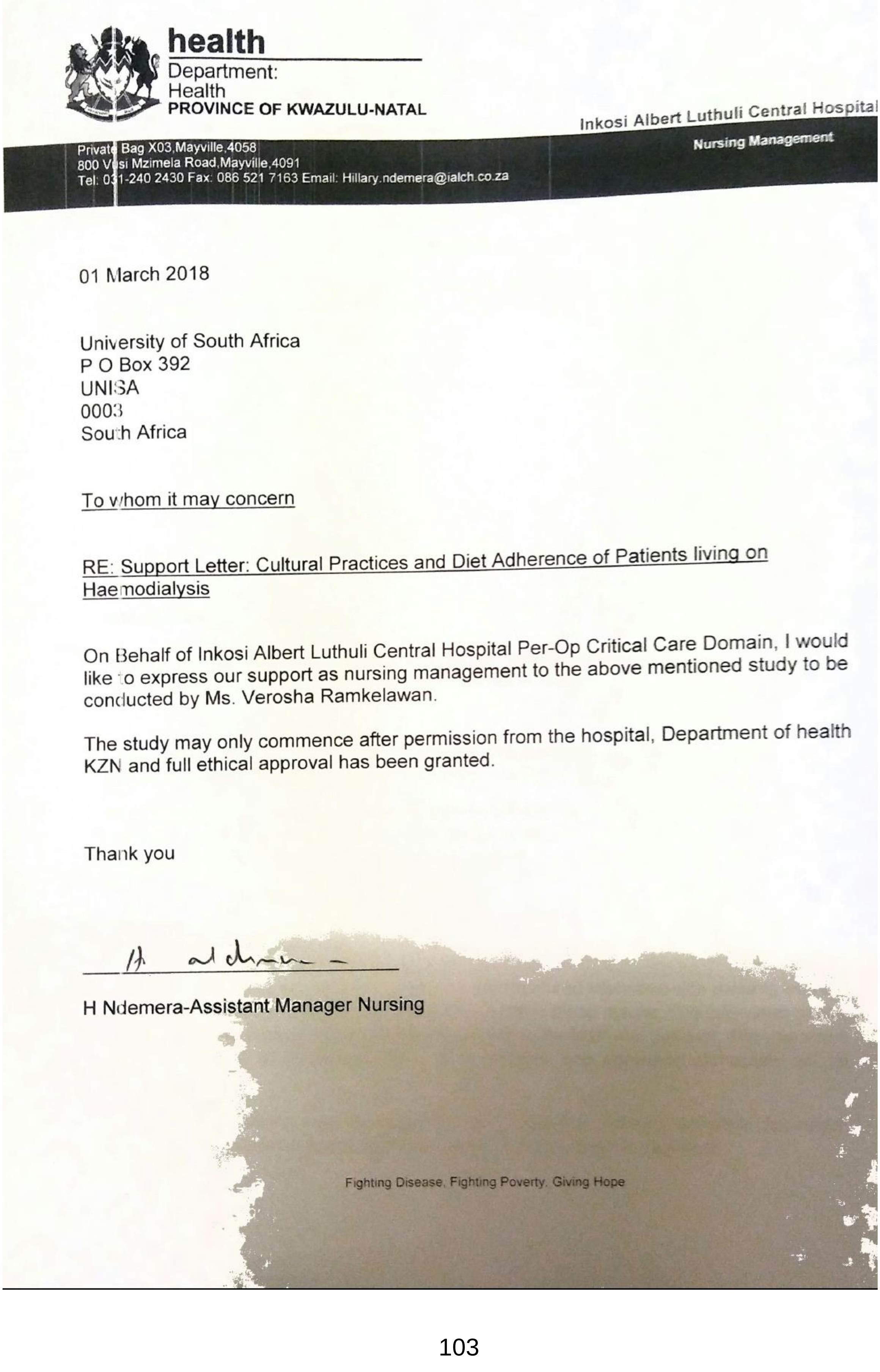
1. Please ensure that you adhere to all the policies, procedures, protocols and guidelines of the Department of Health with regards to this research.
2. This research will only commence once this office has received confirmation from the Provincial Health Research Committee in the KZN Department of Health.
3. Kindly ensure that this office is informed before you commence your research.
4. The hospital will not provide any resources for this research.
5. You will be expected to provide feedback once your research is complete to the Medical Manager.

Yours faithfully

Dr Nevisha Tatwal
Dr L P Mtshali PP
Medical Manager

Fighting Disease, Fighting Poverty, Giving Hope

ADDENDUM F: SUPPORT LETTER: NURSING MANAGER



health
Department:
Health
PROVINCE OF KWAZULU-NATAL

Inkosi Albert Luthuli Central Hospital
Nursing Management

Private Bag X03,Mayville,4058
800 Vusi Mzimela Road,Mayville,4091
Tel: 031-240 2430 Fax: 086 521 7163 Email: Hillary.ndemera@ialch.co.za

01 March 2018

University of South Africa
P O Box 392
UNISA
0003
South Africa

To whom it may concern

RE: Support Letter: Cultural Practices and Diet Adherence of Patients living on Haemodialysis

On Behalf of Inkosi Albert Luthuli Central Hospital Per-Op Critical Care Domain, I would like to express our support as nursing management to the above mentioned study to be conducted by Ms. Verosha Ramkelawan.

The study may only commence after permission from the hospital, Department of health KZN and full ethical approval has been granted.

Thank you

H Ndemera-Assistant Manager Nursing

Fighting Disease, Fighting Poverty, Giving Hope

ADDENDUM G: CONFIDENTIALITY BINDING FORM: RESEARCHER

CONFIDENTIALITY BINDING FORM

Title of Research Project: **Cultural practices and diet adherence of patients living on haemodialysis**

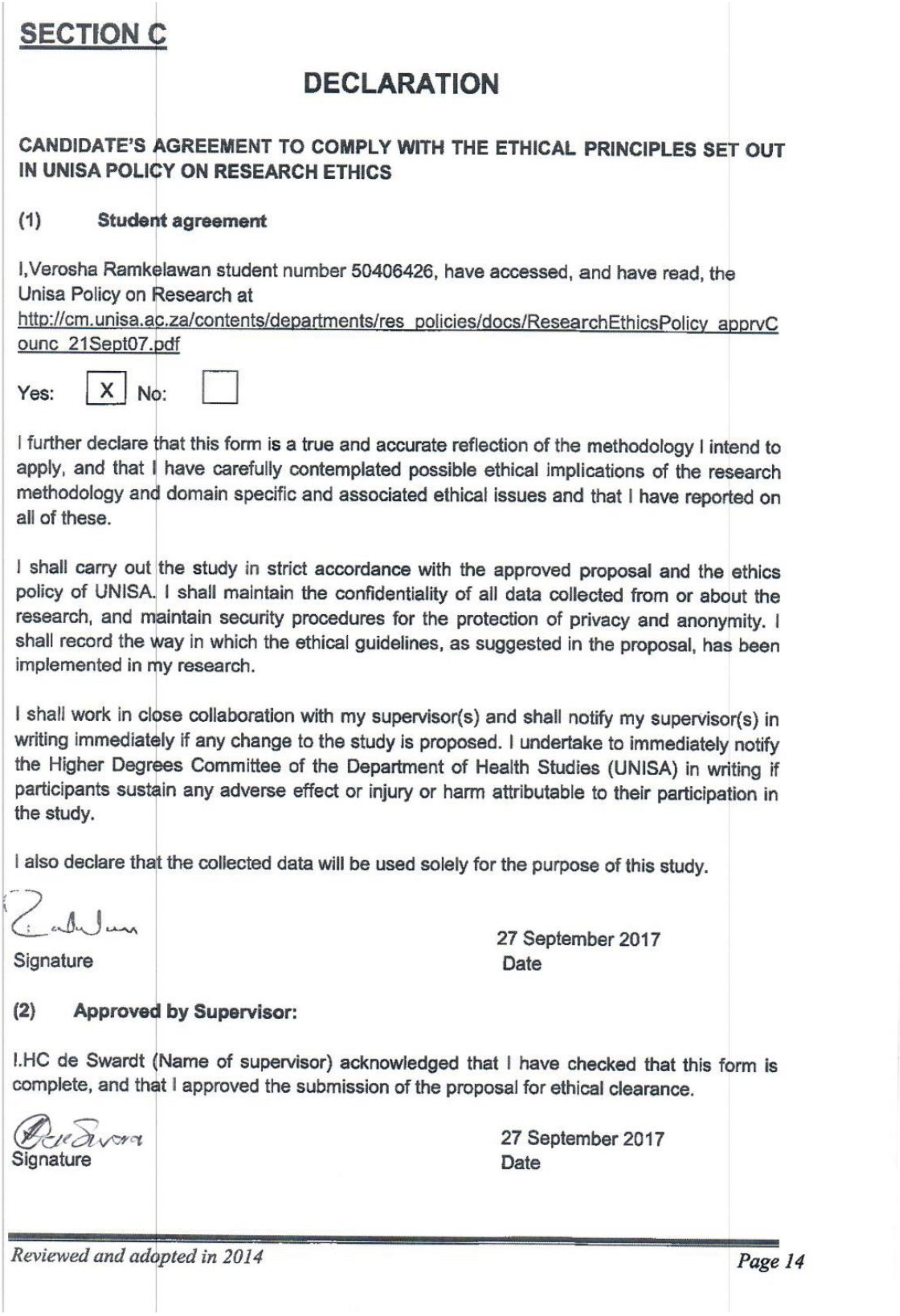
Principal Researcher: Mrs V Ramkelawan

As a researcher, I understand that I will have access to confidential information about study site and participants. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study sites and participants are completely confidential.
- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.
- I understand that all information about study sites or participants obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol in response to applicable law or court order, or public health or clinical need.
- I understand that I am not to read information about study sites or participants, or any other confidential documents, nor ask questions of study participants for my own personal information but only to the extent and for the purpose of performing duties on this research project.

________________	9 February 2018	Mrs V Ramkelawan
Signature	**Date**	**Printed name**

ADDENDUM H: DECLARATION: RESEARCHER



SECTION C

DECLARATION

CANDIDATE'S AGREEMENT TO COMPLY WITH THE ETHICAL PRINCIPLES SET OUT IN UNISA POLICY ON RESEARCH ETHICS

(1) Student agreement

I,Verosha Ramkelawan student number 50406426, have accessed, and have read, the Unisa Policy on Research at http://cm.unisa.ac.za/contents/departments/res_policies/docs/ResearchEthicsPolicy_apprvCounc_21Sept07.pdf

Yes: ☒ No: ☐

I further declare that this form is a true and accurate reflection of the methodology I intend to apply, and that I have carefully contemplated possible ethical implications of the research methodology and domain specific and associated ethical issues and that I have reported on all of these.

I shall carry out the study in strict accordance with the approved proposal and the ethics policy of UNISA. I shall maintain the confidentiality of all data collected from or about the research, and maintain security procedures for the protection of privacy and anonymity. I shall record the way in which the ethical guidelines, as suggested in the proposal, has been implemented in my research.

I shall work in close collaboration with my supervisor(s) and shall notify my supervisor(s) in writing immediately if any change to the study is proposed. I undertake to immediately notify the Higher Degrees Committee of the Department of Health Studies (UNISA) in writing if participants sustain any adverse effect or injury or harm attributable to their participation in the study.

I also declare that the collected data will be used solely for the purpose of this study.

Signature

27 September 2017
Date

(2) Approved by Supervisor:

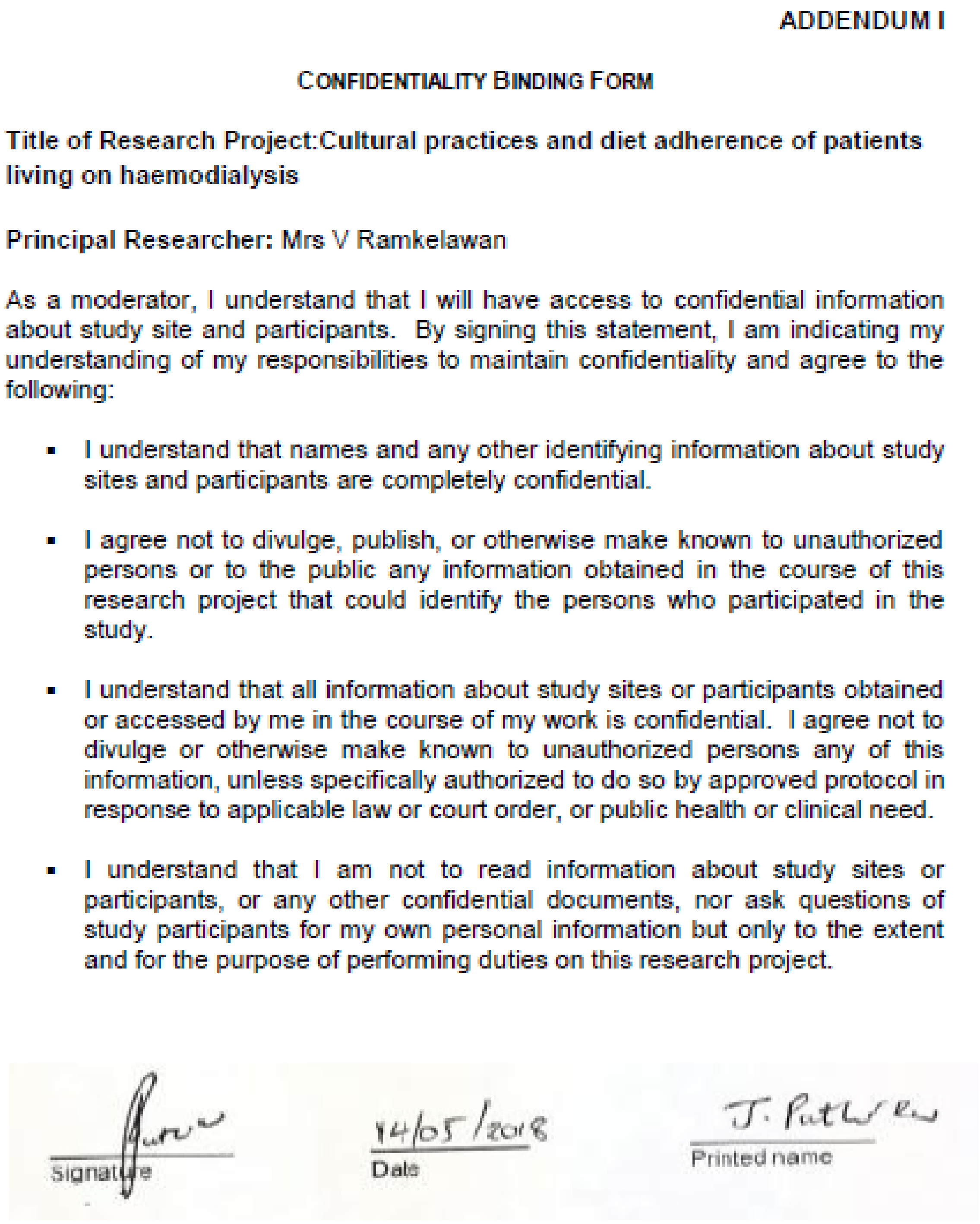
I.HC de Swardt (Name of supervisor) acknowledged that I have checked that this form is complete, and that I approved the submission of the proposal for ethical clearance.

Signature

27 September 2017
Date

Reviewed and adopted in 2014 ***Page 14***

ADDENDUM I: CONFIDENTIALITY BINDING FORM: MODERATOR



ADDENDUM I

CONFIDENTIALITY BINDING FORM

Title of Research Project:Cultural practices and diet adherence of patients living on haemodialysis

Principal Researcher: Mrs V Ramkelawan

As a moderator, I understand that I will have access to confidential information about study site and participants. By signing this statement, I am indicating my understanding of my responsibilities to maintain confidentiality and agree to the following:

- I understand that names and any other identifying information about study sites and participants are completely confidential.
- I agree not to divulge, publish, or otherwise make known to unauthorized persons or to the public any information obtained in the course of this research project that could identify the persons who participated in the study.
- I understand that all information about study sites or participants obtained or accessed by me in the course of my work is confidential. I agree not to divulge or otherwise make known to unauthorized persons any of this information, unless specifically authorized to do so by approved protocol in response to applicable law or court order, or public health or clinical need.
- I understand that I am not to read information about study sites or participants, or any other confidential documents, nor ask questions of study participants for my own personal information but only to the extent and for the purpose of performing duties on this research project.

Signature

14/05/2018
Date

J. Pather
Printed name

ADDENDUM J: COPY OF FIELD NOTES – P20

Field Notes: Participant 20

Patient is lying down calmly during the interview.

Patient smiles, he appears relaxed, calm and happy when he speaks of his family's support, especially his children supporting him.

Facial expressions show that he appears happy during the interview.

Patient laughs when he speaks about foods he is not supposed to be eating

ADDENDUM K: COPY OF INTERVIEW – P2

Interview Transcript

PARTICIPANT 2 (RECORDING) DATE: 23 April 2018

DEMOGRAPHICS

AGE: 34

GENDER: FEMALE

EDUCATIONAL LEVEL: MATRIC

KEY TO ABBREVIATIONS

P: PARTICIPANT

R: RESEARCHER

R: Good morning, my name is Verosha I am a master's student at UNISA. I am here to conduct an interview on cultural practices and diet adherence of patients living on hemodialysis at this institution. Feel free as everything recorded will be strictly confidential and you will be anonymous throughout this interview so please do not mention your name the information collected here will be solely for the purpose of this research so please answer truthfully. Do you still want to participate in this as agreed?

P: Yes.

R: Okay, what is your nationality?

P: South African.

R: How long are you receiving dialysis therapy?

P: From October 2017.

R: Okay, so now is your cultural background, which language do you speak?

P: English.

R: Which religion do you belong to?

P: Christian.

R: What ethnic group do you belong to?

P: Christianity (Asian).

R: So, now I'm going to ask you central questions with regarding to your dialysis and your diet are you still comfortable answering?

P: Yes, I am.

R: Okay. Please tell me the about the advice you get on your diet when you come for dialysis?

P: They... err… Mostly they tell us about how much of liquid we supposed to take. Certain things that we are not supposed to eat that will affect our kidneys more.

R: Okay.

R: Okay, can you discuss about the fluid, what about the fluid, did I tell you how much you should drink?

P: 500mls.

R: Okay, for how long? 500mls is that all? for how long in what time must drink that 500mls?

P: For a day, we only allowed to drink 500ml for a day.

R: Okay 500ml day and night in 24 hours. Okay, you also did say that they are certain things that they tell you on what to eat and not to eat, so what do you mean by certain things?

P: Because I am suffering with pressure and that caused my kidneys to fail therefore not allowed to eat salty foods and there is certain fruits that we can eat and they say that we must stay away from fizzy drinks especially Coke.

R: Hmm… continue, certain fruits?

P: We can’t eat certain fruits which is citrus which oranges are and we can’t bananas, avocados hmm...and when we do eat normal foods we have to have to eat a portion of it we can’t eat a big meal.

R: What is normal food?

P: (Long pause) hmmm…

R: You can tell me like, what is in that plate when you mean normal food?

P: Let’s say I am having a drumstick let’s say I’m having chicken, I can have a portion and rice with it and salad to make one full meal.

R: Why can you not eat certain fruits as you mentioned citrus fruits?

P: Because sometimes it's high in potassium or (pause) or sodium, potassium nooo …

R: Its high in potassium, continue….

P: And that could affect us, so they tell us, they tell us, what we can eat which is good for us, which is apples. We not allowed to eat anything that has err high potassium err which can affect us more.

R: How will it affect you?

P: Will makes us sick.

R: Have you been referred to a dietician?

P: Yes.

R: How many times have you seen a dietician?

P: I saw err the dietician when I was going to my previous base Hospital I was seen by a dietician there, when I started coming here for treatment I was also referred to a dietician before I could start dialysis.

R: Did you receive any information leaflets on the diet you supposed to eat?

P: Yes, I did. They gave us leaflets to say how much we must eat. The portions we can eat and how to stay away from salt.

R: Has any nurses educated you, on your diet?

P: Yes. When we go for dialysis this nurse tell us what we can eat and what we not eat.

R: Is your diet education ongoing, or is it once off?

P: Its ongoing, we learn about it every time that we come for dialysis.

R: Okay, please tell me more about your diet that you follow since you received dialysis treatment, what do you eat at home?

P: I cook separately for myself because we are not allowed to eat like very spicy food and a lot of oil which can cause cholesterol so I eat mostly fruits and vegetables.

R: Okay, what vegetables do you eat?

P: Err.., hmm I eat like every, all vegetables.

R: All vegetables? Do you know that vegetables are also high in potassium?

P: I stay away mostly from potatoes, which is very high in potassium and we were given educated about soaking our… err, err vegetables before we cook, like one hour before we cook, to reduce the starch and stuff.

R: Who prepares your meals for you at home?

P: Myself.

R: Only you?

P: Ya.

R: Are your meals prepared for separately, or is one meal cooked for everyone at home?

P: Separately.

R: Okay, tell me about your family members understanding your condition, does your family understand your condition?

P: Yes, they do.

R: Do they give you support?

P: Yes, they do.

R: Okay, err you live alone or with your family members?

P: With my family members.

R: Does your family understand and participate in your choice of diet?

P: Yes, they do.

R: Okay, and you did that they do give you support, how is their support/ emotional or financial support?

P: Emotional and financial.

R: Okay, tell me more about how your family members consider your condition, regarding food. You know like some families do not understand about your food and they don’t know what you’ll suppose to eat and not supposed to eat.

P: err….

R: Do your family member, like buy food and understand that I need to get things separate for you and these are things that you can eat like buy fruits, do they understand like don’t get bananas because you can’t eat that.

P: Yes

R: So tell me about that.

P: err… when they do buy things for me, they will ask me if I’m allowed to eat this or not, then only they will buy it.

R: Okay, please tell me more about the different kinds of food your family eat or do not eat.

P: They eat all kind food.

R: Is there anything specifically that they do not eat?

P: Pork.

R: Why don’t they eat pork>?

P: (Long pause)

R: Why don’t they eat pork?

P: Hmmm…

R: Okay, they just don’t like it or is it culturally or did they have any experience? They just don’t like it?

P: Yes, they don’t like it.

R: How do you think the food you eat influence your condition?

R: If you eat something how will it influence your condition/

P: Sometimes if we eat something that we not allowed to eat, our blood levels can increase, which can cause us to be sick.

R: Blood levels, explain?

P: Hmm… if certain things that we do eat, which will be high in potassium, or the salt intake that we take can affect our bloods.

R: Okay…

P: The phosphates that is in the food that we eat makes us sick and can also affect our bloods when we going for dialysis.

R: Tell me more about your beliefs with regard to food and diet in your culture.

P: (Long Pause)

R: Okay in your culture, are there things that you are supposed to eat or not supposed to eat/ are there things prohibited in your culture/

P: No. it’s not.

R: Okay, tell me what challenges you experience when buying the food for a renal diet?

P: err… I don’t receive too much challenges because there are foods that err we can buy which are good for us for kidney failure.

R: Okay, and anything else, financially, food resources, can you get the food everywhere in all the stores?

P: Yes.

R: Is it expensive, financially?

P: Yes, some of it is.

R: What other challenges you experience regarding your diet?

P: Err.. When we do prepare food for us, as renal patients we can’t put a lot of flavouring and spices in our food, so it doesn’t taste that good, because are lots of things that we van not add to our food which can cause us to be sick.

R: Is there any other questions that you do have?

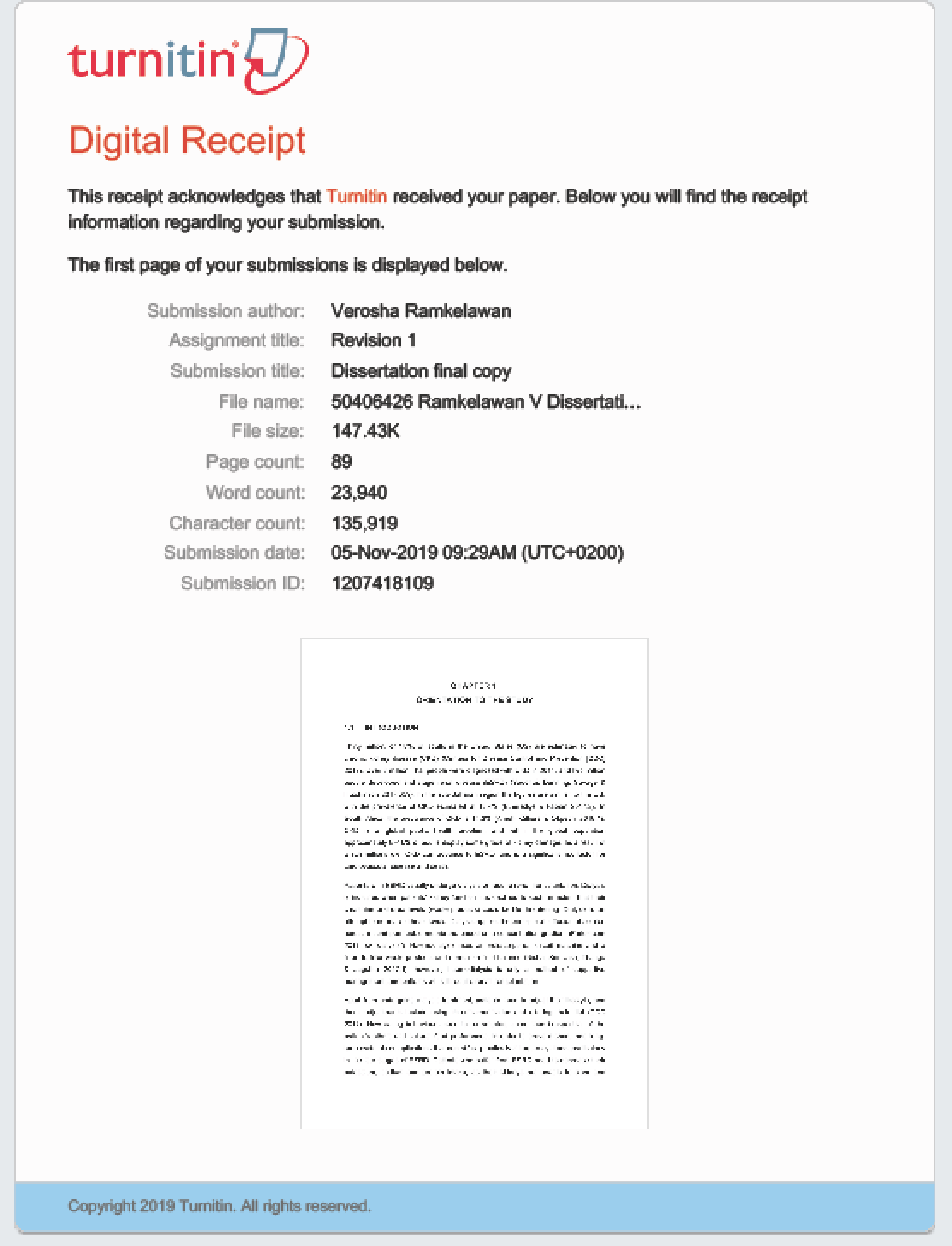
P: No.

R: Okay once again you said that there is nothing that your culture prohibits you to eat?

P: No.

R: Okay thank you. We have now concluded this interview. Thank you once again, we have come to the end.

ADDENDUM L: PLAGIARISM CHECK



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Page count: 89
Word count: 23,940
Character count: 135,919
Submission date: 05-Nov-2019 09:29AM (UTC+0200)
Submission ID: 1207418109

ADDENDUM M: COPY OF CERTIFICATE FROM EDITOR

NIGHT OWL
ACADEMIC
EDITING, LAYOUT
& SUPPORT

P.O. Box 100715
Scottsville
3209

28 October, 2019

To whom it may concern,

I have edited the following thesis for language errors, and in the process have checked the referencing and layout:

Title: *Cultural practices and diet adherence of patients living on haemodialysis.*

Author: Verosha Ramkelawan

Degree: Master of Arts (Nursing Science)

Institution: University of South Africa (UNISA)

Student number: 50406426

Supervisor: Dr H.C. de Swardt

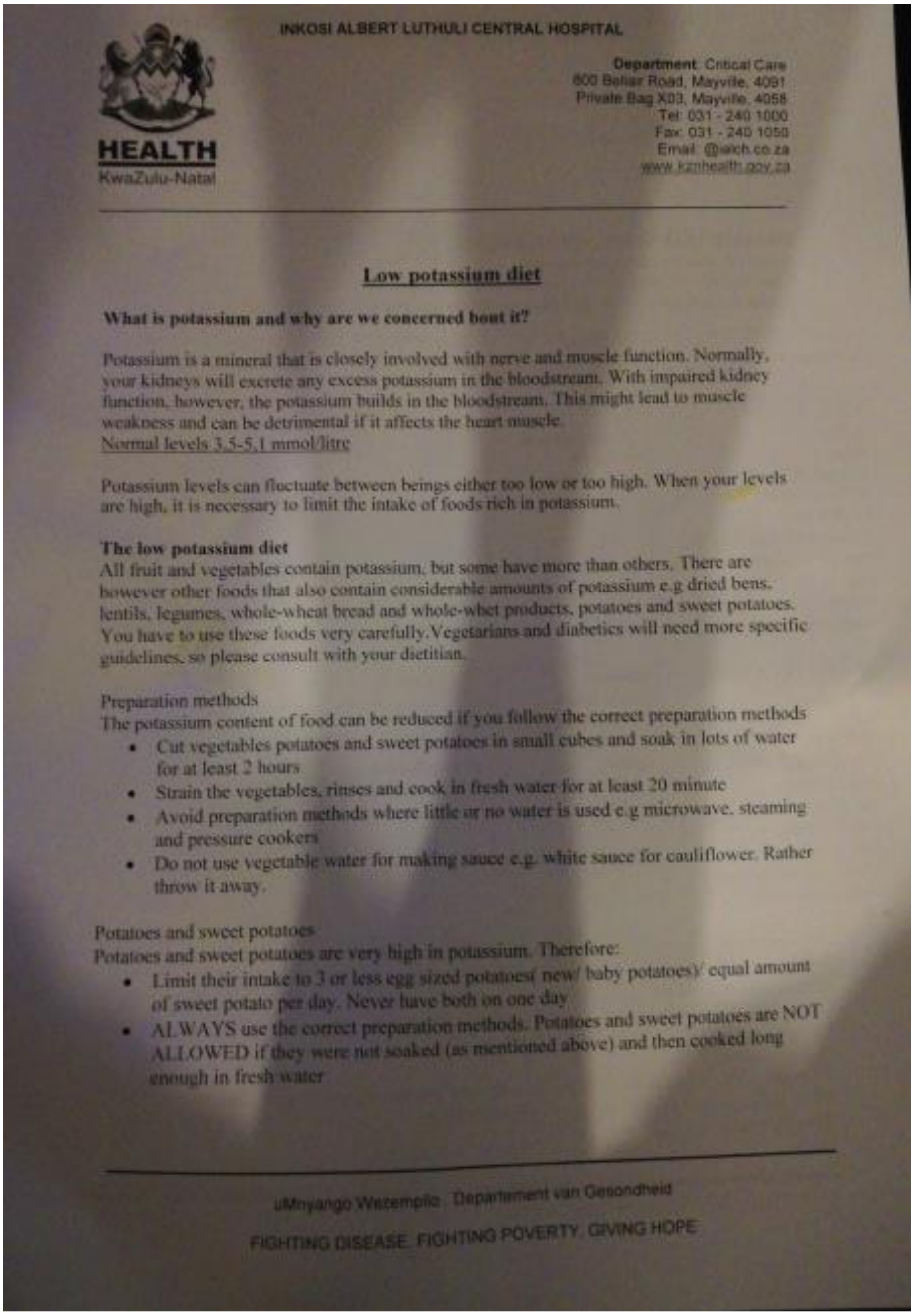
Please feel free to contact me should you have any queries.

Kind regards,

DTurrell

Debbie Turrell
totalnightowl@gmail.com
063 891 3870

ADDENDUM N: COPY OF PATIENT INFORMATION LEAFLET ON RENAL DIET



INKOSI ALBERT LUTHULI CENTRAL HOSPITAL

HEALTH
KwaZulu-Natal

Department: Critical Care
800 Bellair Road, Mayville, 4091
Private Bag X03, Mayville, 4058
Tel: 031 - 240 1000
Fax: 031 - 240 1050
Email: @ialch.co.za
www.kznhealth.gov.za

Low potassium diet

What is potassium and why are we concerned bout it?

Potassium is a mineral that is closely involved with nerve and muscle function. Normally, your kidneys will excrete any excess potassium in the bloodstream. With impaired kidney function, however, the potassium builds in the bloodstream. This might lead to muscle weakness and can be detrimental if it affects the heart muscle.
Normal levels 3.5-5.1 mmol/litre

Potassium levels can fluctuate between beings either too low or too high. When your levels are high, it is necessary to limit the intake of foods rich in potassium.

The low potassium diet
All fruit and vegetables contain potassium, but some have more than others. There are however other foods that also contain considerable amounts of potassium e.g dried bens, lentils, legumes, whole-wheat bread and whole-whet products, potatoes and sweet potatoes. You have to use these foods very carefully. Vegetarians and diabetics will need more specific guidelines, so please consult with your dietitian.

Preparation methods
The potassium content of food can be reduced if you follow the correct preparation methods

- Cut vegetables potatoes and sweet potatoes in small cubes and soak in lots of water for at least 2 hours
- Strain the vegetables, rinses and cook in fresh water for at least 20 minute
- Avoid preparation methods where little or no water is used e.g microwave, steaming and pressure cookers
- Do not use vegetable water for making sauce e.g. white sauce for cauliflower. Rather throw it away.

Potatoes and sweet potatoes
Potatoes and sweet potatoes are very high in potassium. Therefore:

- Limit their intake to 3 or less egg sized potatoes(new/ baby potatoes)/ equal amount of sweet potato per day. Never have both on one day
- ALWAYS use the correct preparation methods. Potatoes and sweet potatoes are NOT ALLOWED if they were not soaked (as mentioned above) and then cooked long enough in fresh water

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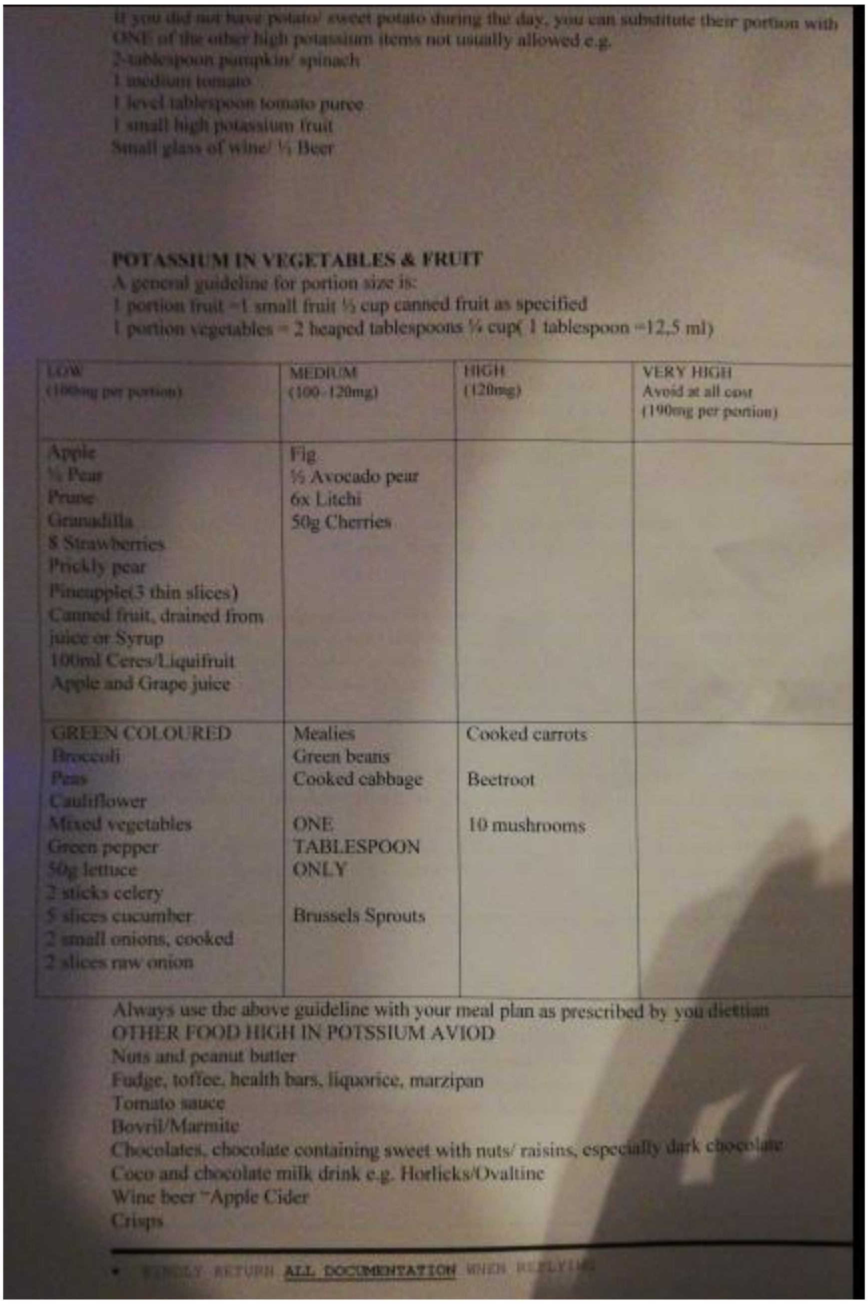
FIGHTING DISEASE, FIGHTING POVERTY, GIVING HOPE



If you did not have potato/ sweet potato during the day, you can substitute their portion with ONE of the other high potassium items not usually allowed e.g.
2-tablespoon pumpkin/ spinach
1 medium tomato
1 level tablespoon tomato puree
1 small high potassium fruit
Small glass of wine/ ½ Beer

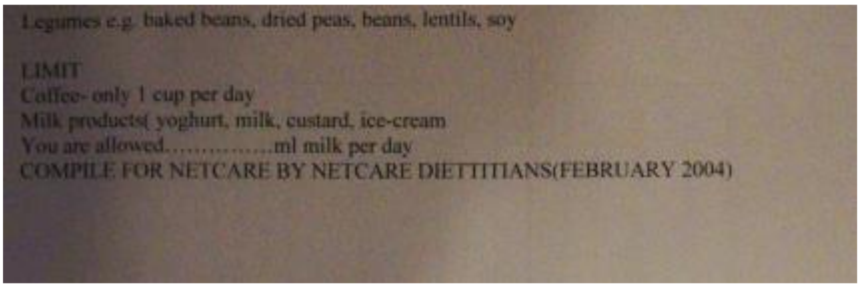
POTASSIUM IN VEGETABLES & FRUIT

A general guideline for portion size is:
1 portion fruit =1 small fruit ½ cup canned fruit as specified
1 portion vegetables = 2 heaped tablespoons ¼ cup(1 tablespoon =12,5 ml)

LOW (100mg per portion)	MEDIUM (100-120mg)	HIGH (120mg)	VERY HIGH Avoid at all cost (190mg per portion)
Apple ½ Pear Prune Granadilla 8 Strawberries Prickly pear Pineapple(3 thin slices) Canned fruit, drained from juice or Syrup 100ml Ceres/Liquifruit Apple and Grape juice	Fig ½ Avocado pear 6x Litchi 50g Cherries		
GREEN COLOURED Broccoli Peas Cauliflower Mixed vegetables Green pepper 50g lettuce 2 sticks celery 5 slices cucumber 2 small onions, cooked 2 slices raw onion	Mealies Green beans Cooked cabbage ONE TABLESPOON ONLY Brussels Sprouts	Cooked carrots Beetroot 10 mushrooms	

Always use the above guideline with your meal plan as prescribed by you diettian
OTHER FOOD HIGH IN POTSSIUM AVIOD
Nuts and peanut butter
Fudge, toffee, health bars, liquorice, marzipan
Tomato sauce
Bovril/Marmite
Chocolates, chocolate containing sweet with nuts/ raisins, especially dark chocolate
Coco and chocolate milk drink e.g. Horlicks/Ovaltine
Wine beer "Apple Cider
Crisps

- KINDLY RETURN **ALL DOCUMENTATION** WHEN REPLYING



Legumes e.g. baked beans, dried peas, beans, lentils, soy

LIMIT
Coffee- only 1 cup per day
Milk products(yoghurt, milk, custard, ice-cream
You are allowed...............ml milk per day
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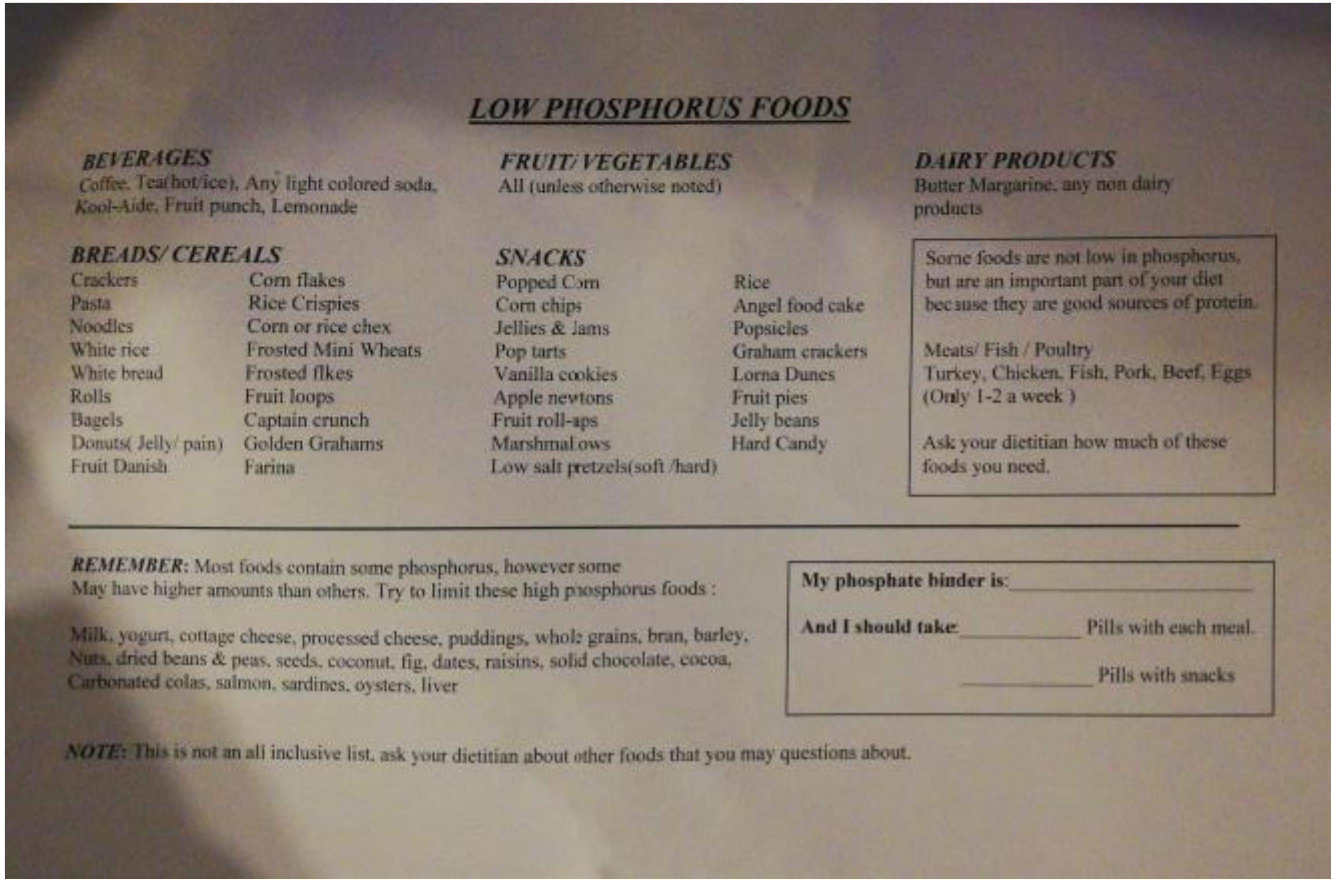

LOW PHOSPHORUS FOODS

BEVERAGES
Coffee, Tea(hot/ice), Any light colored soda, Kool-Aide, Fruit punch, Lemonade

BREADS/ CEREALS

- Crackers
- Pasta
- Noodles
- White rice
- White bread
- Rolls
- Bagels
- Donuts(Jelly/ pain)
- Fruit Danish

- Corn flakes
- Rice Crispies
- Corn or rice chex
- Frosted Mini Wheats
- Frosted flkes
- Fruit loops
- Captain crunch
- Golden Grahams
- Farina

FRUIT/ VEGETABLES
All (unless otherwise noted)

SNACKS

- Popped Corn
- Corn chips
- Jellies & Jams
- Pop tarts
- Vanilla cookies
- Apple newtons
- Fruit roll-ups
- Marshmallows
- Low salt pretzels(soft /hard)

- Rice
- Angel food cake
- Popsicles
- Graham crackers
- Lorna Dunes
- Fruit pies
- Jelly beans
- Hard Candy

DAIRY PRODUCTS
Butter Margarine, any non dairy products

Some foods are not low in phosphorus, but are an important part of your diet because they are good sources of protein.

Meats/ Fish / Poultry
Turkey, Chicken, Fish, Pork, Beef, Eggs
(Only 1-2 a week)

Ask your dietitian how much of these foods you need.

REMEMBER: Most foods contain some phosphorus, however some May have higher amounts than others. Try to limit these high phosphorus foods :

Milk, yogurt, cottage cheese, processed cheese, puddings, whole grains, bran, barley, Nuts, dried beans & peas, seeds, coconut, fig, dates, raisins, solid chocolate, cocoa, Carbonated colas, salmon, sardines, oysters, liver

My phosphate binder is:________________

And I should take:__________ Pills with each meal.

__________ Pills with snacks

NOTE: This is not an all inclusive list, ask your dietitian about other foods that you may questions about.