THE USE OF HERBAL MEDICINE BY CHRONIC HAEMODIALYSIS PATIENTS AND INFLUENCING FACTORS IN AN ACADEMIC HOSPITAL IN GAUTENG

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A research report submitted to the Faculty of Health Sciences, University of the Witwatersrand, Johannesburg, in partial fulfilment of the requirements for the degree of Master of Science in Nursing.

Johannesburg, 2019

DECLARATION

I, Simangele Shongwe-Nxumalo, declare that this research report is my own work and that all the sources cited have been acknowledged. It is being submitted for the degree of Master of Science in Nursing in the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree at this or any other University.

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(Signature of Candidate)

_____ Day of _____20_____in_____

Protocol No: M171004

DEDICATION

To my mother, Joan Sizakele Shongwe, for letting me know that failure is not the end but a corner to be turned into the road of success.

ABSTRACT

Patients on chronic haemodialysis have been found to engage in self-management activities such as herbal medicine to improve their quality of life. The purpose of the study was to explore the use and the factors influencing the use of herbal medicine by chronic haemodialysis patients to inform health care providers on the specific health education needs of these patients.

This was a qualitative exploratory research. Twelve participants were selected using purposive sampling from the chronic dialysis unit of an academic hospital in Gauteng. Data was collected through in-depth, semi-structured interviews. The researcher used Braun and Clarke's thematic analysis method.

The results of the study show that patients on chronic haemodialysis have a history of herbal medicine use and this use is not discussed openly. Discussions need to be open and deliberate to ensure effective provision of health education interventions.

Keywords: Herbal medicine, haemodialysis, end stage renal disease, health education.

ACKNOWLEDGEMENTS

I wish to express my sincere appreciation to the following people:

Mrs Disebo Maboko: My supervisor, for your guidance and wisdom.

Mr Nhlanhla Lucky Nxumalo: My dearest, you were my pillar through the tears, dark days and steep hills.

S'thembile Shongwe: You gave me the push I needed at the right time, a sister indeed.

To my sisters: Thank you being there for my children; am forever grateful.

To my Children: Yenzokuhle Zabenguni and Zibusiso Yemusa, thank you for inspiring mummy to strive for more.

Participants and staff: this work would not have been possible without your participation and assistance.

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CHAPTER 1: OVERVIEW AND BACKGROUND OF THE STUDY

1.1 Introduction

Internationally, herbal medicine has been used to cure a wide variety of ailments, to prevent the occurrence of disease and to promote general wellbeing. The use of herbal medicine has been used by a wide variety of patient populations. This chapter will provide the background on the use of herbal medicine by chronic haemodialysis patients. It will further introduce the problem statement and objectives of the current study will be stated, the significance of the study and the definition of terms in the study will also be provided.

1.2 Background

Internationally, diverse cultures and people have an assortment of medical systems including conventional Western medicine and complementary and alternative medicine. Conventional medicine focuses on clinical findings, documented facts and experimental sciences. Complementary and alternative medicine (CAM) comprise a variety of areas that may be used either as a substitute to or as a balancing approach to conventional medicine (Mahomoodally, 2013).

CAM can be further divided into traditional medicine, body based medicine, diet and nutrition and external energy mind and sense approaches. Others such as acupuncture homeopathy, massage and herbs, meditation, dance and electromagnetic therapy are used in overlap with each other in CAM (University of Rochester Medical Centre, 2015). Traditional medicine has been used for centuries and its use continues to increase globally in the treatment of various acute health conditions and chronic diseases (Ekor, 2013). At the turn of the twentieth century traditional medicine usage changed because of scientific and technological improvements the trend had previously been that the use of traditional medicine declined in favour of drugs. The past two decades have however seen a resurgence in the use of natural and organic medicines. The World Health Organisation defines traditional medicine as the sum of the knowledge, skills and practices based on the theories, beliefs and experiences and experiences indigenous to different cultures

whether or not explicable used in the maintenance of health and in the prevention, diagnosis, improvement or treatment of physical and mental illness (WHO Traditional Medicine Strategy, 2013). Incorporated within the territory of traditional medicine is herbal medicine which is the therapeutic use of plants. This may comprise plant products in a variety of materials and preparations. It is estimated that 80% of the Asian and African population use herbal medicine (Ekor, 2015). The context in which herbal medicine is used may differ according to cultural and environmental factors. Herbal medicine use has been documented by studies conducted in Mauritius, Ghana, Nigeria and Egypt (Ekor (2013), Mahomedally (2013), Okwuonu et al., (2014).

In South Africa it is not unusual for patients with chronic conditions to use herbal medicine (Sibanda et al., 2016). One of these chronic conditions is kidney disease. It is estimated that in South Africa about half a million people are affected by kidney disease (Gernholtz et al., 2015) and according to Meyers (2015) chronic kidney disease is found in 10% of the global population. End stage renal disease is the fifth most common cause of death in South Africa (Meyers, 2015). Treatment options available for patients with end stage renal disease are peritoneal dialysis, haemodialysis and kidney transplantation. The aim of these treatment options is to replace kidney function (Tannor et al., 2017). According to the 2014 South African Renal Registry Report haemodialysis is the most widely used treatment modality (71.8%), whilst peritoneal dialysis and kidney transplantation account for 13.5% and 14.7% respectively.

Patients on haemodialysis, especially those on chronic haemodialysis require specialised care not only because of the disease process but also because they are exposed to a wide variety of medication and the effects of the haemodialysis itself. In order for patients to adapt effectively to living with end stage renal disease they may engage in self-management activities to improve their quality of life. Using herbs that are professed to be helpful to renal function is one option that they may consider. The benefits they seek may include promotion of diuresis, reduction of proteinuria and general improvement in renal function (Zaid, 2016). However, there are researchers who believe there is not enough data to support this assertion and that the side effects of herbal medicine far outweigh the benefits (Ardalan and Rafieian-Kopaei, 2013; Khodadadi and Rafieian- Kopaei, 2016 and Okwuonu et al., 2014).

It has been observed that patients on haemodialysis who have used herbal medicine had a higher incidence of inter-dialytic fluid overload and electrolyte imbalances (Zyoud et al., 2016 and Roozbeh et al., 2013). Some of these patients may confirm herbal medicine use only upon enquiry but would not delve into the factors influencing the use of herbal medicine or the nature of herbs used. According to a study conducted by Zyoud et al. (2016) on the use of CAM in haemodialysis patients in Palestine, 50% of haemodialysis patients with confirmed end stage renal disease use different herbal medicine.

Data from Thailand, Malaysia and Nigeria show that patients with kidney disease use herbal medicine sometimes with almost a fifth of haemodialysis patients using an alternative medicine therapy (Roozbeh et al., 2013; Tangkiatkumjai et al., 2013 and Okwuonu et al., 2014). Roozbeh et al., (2013) believe that herbal medicine use in haemodialysis patients has more profound effects because of the loss of kidney function. This leads to the accumulation of fluid and toxic substances. The extensive use of herbal medicine and the growing prevalence of chronic kidney disease especially in developing countries is a cause for concern.

Research shows that herbal medicine has not only been implicated in renal injury (Roshni et al., 2014; Jha et al., 2013 and Okwuonu et al., 2014) but also reduced adherence to the conventional medicine regimen in haemodialysis patients (Tangkiatkumjai et al., 2013). The popularity of herbal medicine is due mainly to the belief it is natural, safe and cheaper with 75% of the population in sub-Saharan Africa depending on herbal medicine (Roshni et al., 2014 and Khodadadi and Rafieian- Kopaei, 2016). Data on the use and the factors influencing the use of herbal medicine in patients on chronic haemodialysis is inadequate and thus to build on the required knowledge the study aims to explore these factors.

1.3 Problem Statement

Research from a number of countries shows that some herbs promote diuresis, protein reduction and improvement in renal function, however researchers also acknowledge that validation from well documented research is lacking. There is an

overwhelming concern about the nephrotoxic effects of herbal medicine in renal patients (Roozbeh et al., 2013; Tangkiatkumjai et al., 2013 and Ardalan and Rafieian-Kopaei, 2013).

Globally, some studies have documented the use of herbal medicine in chronic kidney patients and haemodialysis patients. In South Africa, Njoro (2016) found that 30% of the participants in her study used herbal substances after they were diagnosed with renal disease. It has been observed that patients on chronic haemodialysis that present with inter-dialytic complications such as volume overload and hyperkalaemia have a history of herbal medicine use (Roozbeh et al., 2013). Limited studies were found focusing on the use of herbal medicine by patients on chronic haemodialysis. The unreported use of herbal medicine in haemodialysis patients is a cause for concern as this may result in other complications resulting from both herbal medicine use and chronic renal failure. This is because a growing number of populations are exposed to numerous environmental toxins, high infectious burdens and increasing rates of non-communicable diseases (Stanifer et al., 2016).

The bulk of studies documenting the use of herbal medicine in haemodialysis were mostly from Asia (Roozbeh et al., 2013; Tangkiatkumjai et al., 2013 and Ardalan and Rafieian-Kopaei, 2013) compared to South African studies (Njoro,2016; Sibanda et al., 2016 and Gernholtz et al., 2015). It is important for health providers to understand the factors influencing herbal medicine use in their patients to facilitate relevant education interventions for both individuals and groups of patients. This study's aim was to explore the use and the factors influencing the use of herbal medicine in chronic haemodialysis patients. The study focused on haemodialysis as it is the most widely used option of renal replacement in South Africa for chronic haemodialysis patients as they are familiar with both the process of dialysis and yet they may still use herbal medicine.

1.4 Research questions

1. How do chronic haemodialysis patients define herbal medicine?
2. What are the factors influencing the use of herbal medicine by chronic haemodialysis patients?
3. What health education needs do chronic haemodialysis patients receive and require regarding the use of herbal medicine by chronic haemodialysis patients?

1.5 Purpose of the Study

The purpose of the study was to explore the use and the factors influencing the use of herbal medicine in chronic haemodialysis patients to inform health care providers on the specific health education needs of these patients.

1.6 Objectives of the study

1. To explore the views and definition of herbal medicine use by chronic haemodialysis patients.
2. To explore the factors influencing the use of herbal medicine by chronic haemodialysis patients.
3. To explore the health education chronic haemodialysis receive and require regarding herbal medicine use by chronic haemodialysis patients.

1.7 Significance of the study

The study aimed to provide insight into the factors influencing the use of herbal medicine in chronic haemodialysis patients. Nurses have based their nursing actions on learning as much as possible about their clients and identifying common factors and differences in the provision of individualised care. The study aimed to offer recommendations for health education interventions and to contribute to current research on herbal medicine.

1.8 Research Paradigm

A paradigm is essentially a worldview, a whole frame work of beliefs, general perspectives on the complexities of the real world (Creswell and Poth, 2018). These beliefs are acquired from the books and journals that researchers read, from education and training and through the advice dispensed by various research advisors. The aim of this study was to explore the use of herbal medicine and the factors influencing its use in chronic haemodialysis patients in an academic hospital in Gauteng. A paradigm is made up of ontology, epistemology, axiology and methodology.

1.8.1 Ontology

Ontology deals with the main characteristics of a situation as it exists (Creswell and Poth, 2018). The researcher in this study believes that the views of patients on haemodialysis should be considered when developing health education plans on the use of herbal medicine and influencing factors. The researcher conducted the study with the aim of reporting the participant perspectives through the use of actual extracts from participant interviews.

1.8.2 Epistemology

Epistemology is the relationship between the enquirer and the area being studied (Brink, van der Walt and van Rensburg, 2012). The researcher is familiar with haemodialysis therapy and has worked in a similar unit.

1.8.3 Axiology

Creswell and Poth (2018) define axiology as the value stance taken by the researcher. These may include personal experiences and professional beliefs. The researcher believes that participant perspectives are important because participants are the ones experiencing and living with that condition.

1.8.4 Methodology

Methodology refers to the methods followed by the researcher (Brink, van der Walt and van Rensburg, 2012). The research design data collection strategy and data analysis methods are detailed in Chapter 3.

1.9 Meta-theoretical Assumptions

Meta theoretical assumptions are components of a disciplines perspective (Brink, van der Walt and van Rensburg, 2012). In this instance the focus of the study was nursing disciple. The components guiding the perspective of the researcher in this study are person, health, environment and nursing.

1.9.1 Person

In this study the person is the patient on chronic haemodialysis whose components are the physical, psychological, social and spiritual aspects of the self. The patient is the focus of the nurse in the provision of haemodialysis therapy and health education.

1.9.2 Health

The focus of the healthcare provider in chronic haemodialysis patients is to assist patients to comply with haemodialysis principles and self-care interventions to improve patients' quality of life.

1.9.3 Environment

This refers to the external and internal environment in which the care of the chronic haemodialysis patient occurs which is the dialysis unit. The dialysis unit consists of a variety of team members including but not limited to the nurse, doctor, social worker dietician and others. The environment includes the nursing interventions contributing to a balance in the patients' internal environment.

1.9.4 Nursing

This area encompasses the nursing interventions geared towards the effective adaptation of patients on chronic haemodialysis through health education, provision of haemodialysis therapy through assessment of the patients' condition, implementing nursing interventions and promoting health. To function optimally the nurse has to be knowledgeable about the patients' needs and her needs as a professional to carry out the nursing role effectively.

1.10 Research Approach Chosen

Creswell and Poth (2018) state that the constructivist paradigm is the basis for qualitative research. The qualitative approach to research was chosen as it is appropriate for exploring participant approaches to phenomena. Reality consists of multiple facets and perspectives as experienced by different people.

The constructivist paradigm in qualitative research was employed in the current study. The researcher wished focus on the participant's perspective that emerged from the data instead of basing the study on a theoretical framework. In this instance the reality is constructed by the participants themselves without being influenced by preconceived ideas or theories.

1.11 Definition of terms

The following concepts were used in the study:

Complementary and Alternative medicine (CAM): is a category of medicine that includes a variety of treatment approaches that fall outside the realm of conventional medicine (Zimney, 2016). Angelis (2015) proposes that treatment approaches in CAM have natural products and practices blended together and may be adapted from different cultures and used for therapeutic purposes. Traditional medicine and herbal medicine fall under this approach.

Traditional Medicine: is the sum of the knowledge, skills and practices based on theories, beliefs and experiences indigenous to different cultures whether or not explicable, used in the maintenance of health and the prevention, diagnosis improvement or treatment of physical and mental illness. Traditional medicine encompasses the use of herbal medicine, animal parts and minerals. Herbal medicine is the most extensively used (WHO Traditional Medicine Strategy, 2013).

Herbal Medicine: this is the practice of the medicinal and therapeutic use of plants (University of Maryland Medical Centre, 2015). The current study focuses on plants or plant products that patients may use as part of self-care.

Chronic Kidney Disease: is defined as abnormalities of kidney structure of function present for more than three months with implications to overall health. Key elements include irreversibility, chronicity (more than three months), presence of kidney damage and decreased glomerular filtration rate. (Himmelfarb and Ikizler, 2019).

End Stage Renal Disease (ESRD): The kidney damage that occurs in after the diagnosis of chronic kidney disease may result in end stage renal disease which is the most severe form of chronic kidney disease with death as an inevitable consequence unless long-term renal replacement is started (Etheridge and Fabian, 2017 and Rao et al., 2016).

Haemodialysis: is the treatment in ESRD used to remove waste and excess fluid from the blood. It is essentially the filtration of blood through a semi permeable membrane (http://www.medlineplus.gov). Chronic haemodialysis refers to the haemodialysis sessions received by patients with progressively worsening kidney disease (Fortus Healthcare resources, 2013).

Health Care Provider: an individual who helps in identifying, preventing or treating illness or disability (http://www.freedictionary.com). For this study health care provider includes all health professionals in close contact with the patient on chronic haemodialysis.

Patient: An individual who receives or seeks medical attention, care or treatment (http://www.freedictionary.com). For this study the patient is the individual undergoing chronic haemodialysis.

1.12 Conclusion

This chapter discussed the overview and background of the study. The chapter has discussed the problem statement, objectives of the study, and the significance of the study including the definitions of terms used in the study.

The research report will be outlined as follows:
Chapter 2: Literature review
Chapter 3: Research design and methodology
Chapter 4: Findings of the study
Chapter 5: Discussion of study findings, recommendations, limitations and conclusions.

The following chapter describes the literature review used in the study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

This chapter discusses the literature reviewed in relation to the use of herbal medicine by patients on chronic haemodialysis and the factors influencing the use of herbal medicine in these patients. This literature review summarizes chronic kidney disease, haemodialysis, the popularity of herbal medicine use and its perceived benefits, the factors influencing the use of herbal medicine in chronic haemodialysis patients and the health education given by health care providers to these patients regarding the use of herbal medicine. The online literature search was conducted using Google Scholar, EBSCO Host and Science Direct databases. The review included articles published in English from 2013 to 2017. Additional articles cited in the original articles were also explored.

2.2 Chronic Kidney Disease

Chronic kidney disease is a substantial health burden worldwide and sub-Saharan Africa is included in this problem. However, there is a lack of reliable statistical reports about the prevalence of the disease in most African countries (Naicker and Moosa, (2015); Stanifer et al. (2014). A study conducted by Etheridge and Fabian (2017) estimated the prevalence to be at 13.9% in Africa and 13.4% globally. The potential for the burden of chronic kidney disease in sub-Saharan Africa is exacerbated by the large population of people living with HIV, which is estimated to be about 22 million (Meyers, 2015).

Chronic kidney disease is defined as reduced kidney function with an estimated glomerular filtration rate of less than 60ml/minute or as kidney damage that persists for at least twelve weeks (Daurgidas, Blake and Ing, 2015). The kidney damage that occurs in this case may result in end stage renal disease which is the most severe form of chronic kidney disease with death as an inevitable consequence unless long-term renal replacement is started (Etheridge and Fabian, 2017 and Rao et al., 2016).

2.3 Causes of Chronic Kidney Disease

In Africa the main causes of chronic kidney disease are hypertension, glomerulonephritis, diabetes mellitus, HIV (Moosa et al., 2015) and the lack of knowledge of prevention of or awareness about the disease (Naicker, 2013). Meyers (2015) stated that hypertension is the leading contributor to chronic kidney diseases at 55% prevalence with diabetes mellitus being attributed to 25% of all chronic kidney diseases. The absence of prevention programmes for chronic kidney disease is an additional factor that contributes to its prevalence (Naicker, 2013).

The leading factor that contributes to approximately 10% of kidney disease is the use of herbal medicine mainly in Asian and African populations (Meyers, 2015). Traditional and alternative medicine's contributions to the development of chronic kidney disease is unknown but research has found that there is an increased risk of end stage renal disease with the consumption of some herbal remedies (Tangkiatkumjai et al 2015) . This shows that the causes of chronic disease are diverse and complex and sometimes preventable. Chronic kidney diseases especially end stage renal disease are manageable through several therapies.

2.4 Management of End Stage Renal Disease

In South Africa end-stage renal disease is managed by peritoneal dialysis, haemodialysis and transplantation. According to the renal registry (2012) haemodialysis is the most widely used form of renal replacement therapy. Haemodialysis predominates because of the frequent unavailability and higher costs of peritoneal dialysis and the lack of adequate transplantation.

2.4.1 Haemodialysis

Haemodialysis is a method of removing waste products and extra fluid that build up when the kidneys no longer function properly (The National Kidney Foundation, 2015). This is done through a dialysis machine. The patient is connected via tubing through a vein and blood is pumped out of the body into a special filter called a dialyser. The dialyser comprises a semi permeable membrane through which blood is

continuously pumped allowing waste products and excess water to be removed. The purified blood is then returned to the patient via tubing. This process helps to maintain proper chemical balance such as potassium, sodium, chloride and water (The National Kidney Foundation, 2015).

Patients receive this treatment three times a week with each session lasting for three to four hours depending on body size and medical condition. According to Daurgidas et al. (2015), thrice weekly dialysis allows for adequate removal of urea and the safe removal of excess salt and water. The dialysis time of three to four hours per session allows for the modest removal of phosphate which helps to achieve the standard haemodialysis adequacy of urea clearance of 1.2 or greater. This enables patients to have an enhanced quality of life allowing them to resume their daily activities and lead almost normal lives. End-stage renal disease patients undergo not only dialysis but also have pharmacological therapy to manage the complications of chronic kidney disease.

2.4.2 Pharmacological Management in Chronic Haemodialysis Patients

Chronic kidney disease has complications that require the patient to take a drug regimen to manage the complications. Complications of chronic kidney disease include anaemia, mineral bone disease, cardiovascular disease and cancer; with cancers of the renal tract and thyroid being most common (Webster et al., 2017). Depending on the underlying condition, patients may take antihypertensive medication, antidiabetic agents, antiretroviral therapy, erythropoietin agents and other drugs. These medications may be beneficial but in chronic haemodialysis may present a higher risk of increased toxicity due to altered drug absorption, metabolism and excretion (Webster et al., 2017). This may also result in interactions between the different drug therapies. Commonly used drugs in the general population may have different effects when given to chronic haemodialysis patients. The combination of impaired kidney function and the use of drug therapy increases the odds of further injury to the kidneys. Wilson, Nolin and Berns (2015) state that this may be because end stage renal patients experience frequent and large volume shifts with abrupt increases and decreases in urea and waste clearances.

2.4.3 Availability of Haemodialysis

According to Kilonzo et al. (2017) only 12.5% of the dialysis need in Africa is met. In South Africa, due to the scarcity of resources only patients who meet the required criteria may get dialysis slots in state funded hospitals. The need for long term renal replacement therapy continues to grow whereas health budgets shrink with every passing year. This scarcity of resources may impact on patients' attitudes and behaviour in communicating their needs and preferences for treatment. It has been observed especially in South Africa, that the fear of losing one's dialysis slot may cause patients not to disclose any pertinent information to their health care provider such as the use of complementary and alternative medicines. The researcher has also observed that the high haemodialysis demand impacts on available resources negatively resulting in a situation where not all patients who require haemodialysis treatment end up receiving it.

2.4.4 Effects of Haemodialysis

Haemodialysis is intensive, invasive and physically debilitating (Winterbottom, 2014). After a dialysis session some patients may feel fatigued and like they are not themselves. Garg et al. (2017) likened this fatigue to "feeling washed out". Patients may need time to rest and recover before the resumption of responsibilities and activities. Patients on haemodialysis may also have a higher risk of developing insulin resistance, malnutrition and inflammation than the general population (Himmelfarb and Ikizler 2019).

End stage renal disease may not only impact on the physical appearance of the haemodialysis patient but also on the social, emotional and cognitive aspects. Patients on haemodialysis need to attend clinic appointments, attend dialysis sessions and treat minor ailments or disease complications timeously (Winterbottom et al., 2012). These self-management activities may include fluid management, physical activity and the maintenance of a low potassium, low sodium and low phosphate diet. These activities help to prevent and manage the complications of chronic kidney disease. According to Wazaify et al. (2013), the experience of living with end stage renal disease may cause negative emotions and feelings of loss of

control. It is at this point that some patients may turn to complementary and alternative therapies as a way of taking control of their lives.

2.5 Complementary and Alternative Medicine

The use of complementary and alternative medicine comprises practices and products that are used that are not considered a part of conventional or modern medicine. According to Wazaify et al. (2013), non-conventional medicine, complementary and alternative medicine are referred to interchangeably as traditional medicine in literature and by the WHO. Complementary and alternative medicine includes acupuncture, homeopathy, mind-body therapies and biologically based medicine such as herbal therapy and dietary supplements (Rao et al., 2016). Herbal medicine is the most widely used form of complementary and alternative medicine. These treatments utilise natural products to promote health.

The literature reveals that patients with chronic conditions are more favourable to using herbal and biological products as compared to other patients. According to Wazaify et al. 2013 in their study on the prevalence of herbal medicine use in a cohort of patients with chronic kidney disease, dyslipidaemia and hypertension in Jordan, 7.5% of the patients reported using herbs, while 83% of their participants had hypertension. Hashempur et al. (2015) conducted a cross sectional study on complementary and alternative medicine use in Iranian diabetes mellitus patients which revealed that 97.7% reported the use of herbal preparations.

Both studies concluded that complementary and alternative medication is popular among patients with chronic conditions such as hypertension and diabetes. Reid et al. (2015) found that literature reviewed in AMED, CINAHL and PubMed data bases from 2000 to 2014 identified a high use of complementary and alternative medicine to be an international trend. In Africa, studies on the use of herbal medicine by patients with hypertension and chronic kidney disease have been conducted. In the Democratic Republic of Congo, Lulebo et al. (2016) found that the prevalence of complementary and alternative medicine use among hypertensive patients was at 26.1%. In Ethiopia, CAM use among elderly patients living with chronic diseases was at 74% with 54% using herbal medicine (Ayele et al.,2016) whilst in South Africa

Hughes et al. (2013) found that 21% of their respondents used traditional herbal medicine to treat hypertension. All these studies illustrate how popular the use of complementary and alternative medicine is both globally and locally.

2.6. The Popularity of Using Herbal Medicine

It is estimated that 80% of the population in Africa use herbal medicine (WHO Traditional Medicine Strategy, 2013) and Rivera et al. (2014) state that herbal medicine is widely used by almost every culture for the prevention and treatment of multiple health conditions. Despite advances in modern medicine, herbal therapy is widely used to protect and improve health and wellbeing and treat symptoms and diseases. This is evidenced by studies conducted in Jordan, Australia and Iran (Wazaify, 2013; Hashempur et al., 2015 and Reid et al. 2016). Its wide use may be because herbs are considered to be safe. It has been shown in other studies that many patient populations including patients on haemodialysis believe that using herbal medicine is safe (Tangkiatkumjai et al, 2014 and Bahall 2017).

The most commonly used toxic herbs include cape aloes, African violet tree (Stanifer et al., 2014), garlic and St John's Wort (Rivera et al. 2013). This is evidence that patients may get their herbal medicine either in a raw format or packaged in attractive containers. The sources of herbal medicine may also vary from local areas (field, market, traditional health practitioner, diviner and healers) to more distant sources such as through the internet and large scale shops and pharmacies.

2.7. The Prevalence of Herbal Medicine Use in Haemodialysis Patients

Herbal medicine is assumed to be natural, free from chemical contaminants and thus safe to use (Ekor, 2014). Haemodialysis patients use different forms of herbal medicine. In a study conducted in the United States of America by Birdee, Philips and Brown (2013) on the prevalence of CAM use by haemodialysis patients, they found that 14% of their participants used biologically based products whilst on haemodialysis. Osman et al. (2015) in their study conducted in Egypt on CAM use among patients with chronic kidney disease and kidney transplant patients on the types and sources of CAM use ; found that 33% of dialysis patients use

complementary and alternative medicine while 78% of these use herbs and natural products. In a study conducted by Bahall (2015) in Trinidad on the use of complementary and alternative medicine by patients with end stage renal disease on haemodialysis found that all 101 respondents used medicinal herbs. Because of the complexity of end stage renal disease, haemodialysis patients may look to complementary and alternative medicines to ease complications such as oedema, fatigue, loss of appetite, anaemia, bone pain and oliguria. Some of these complications may be because of comorbid conditions such as hypertension, diabetes and systemic lupus erythematosus.

2.8 Factors Influencing the Use of Herbal Medicine in Haemodialysis Patients

Demographic factors such as age, gender and place of residence have been identified as influencing for herbal medicine use by patients. A study conducted on CAM use among elderly patients living with chronic diseases in a teaching hospital in Ethiopia by Ayele et al., (2017) found that middle aged to elderly patients are more likely to consider using herbal medicine . Rao et al. (2016) state that economic constraints and the duration of the illness also influence the use of complementary and alternative medicines. If a patient feels dissatisfied with the conventional therapy, they may be influenced to utilise complementary and alternative medicine (Lulebo et al. 2016).

The prevalence of herbal medicine use varies by geographical location, it is more prevalent in areas that are far away from health centres and in places where conventional medicine is expensive. In South Africa the diversity in cultural practices and beliefs contributes greatly to CAM use. Africans are highly reliant on non-conventional health care as a source of information (Ayele et al. 2017).

Family decision-making structures are another factor that influences CAM use, a patient does not exist in isolation and sometimes the decision of the family may override that of the patient. It has been shown that herbal medicine usage is widespread in those who are educated and affluent. This is because of the global

trends to use natural products such as those being sold over the counter in pharmacies and retail stores.

2.9 Perceived Benefits of Herbal Medicine

Looking at the widespread popularity and demand of herbal medicine both globally and locally, there are benefits that are derived from its use either physically or psychologically. Bahall (2017) says benefits of herbal medicine include improved emotional wellbeing, relief of symptoms especially those from chronic health conditions and an increase in general wellbeing and relaxation. Studies have identified that respondents report fewer side effects when using CAM (Ayele 2015, Lulebo 2017).

The lack of clear side effects is coupled with a higher sense of perceived effectiveness of such medicines. Other benefits outlined include prevention of chronic diseases, delaying of the aging process and supporting the structure and function of the body. Although the exact pathways are not known it is believed some plants have antioxidant properties. Oxidative stress has been implicated in the exacerbation of chronic and hard to cure diseases. Zhang et al. (2013) in their study into the therapeutic use of traditional Chinese herbal medicine for chronic kidney disease found that the herbs used have effects that are related to anti inflammation, anti-fibrosis, anticoagulation and CAM use results in the improvement of metabolic disturbance. This includes the promotion of diuresis, reduction of proteinuria and the improvement of renal function. These are the benefits that chronic kidney disease patients expect when they utilise herbal medicine. However, herbal medicines have nephrotoxic effects which dialysis patients need to know of.

2.10 Nephrotoxic Effects of Herbal Medicine in Chronic Haemodialysis Patients

Dialysis patients have a higher mortality risk than the general population and these risks include the dialysis therapy itself, cardiovascular risks such as hypertension, diabetes, anaemia, volume overload and electrolyte and mineral imbalances (Tamayo et al., 2016). According to Rivera et al. (2013) chronic haemodialysis

patients may experience a decreased quality of life because of the complications of end stage renal disease and the effects of haemodialysis sessions. This decrease in the quality of life places them at a greater chance of developing clinically relevant alterations in the efficacy of medications and potential toxicity.

Koren et al., (2017) found potential drug-herb interactions in a study on the use of complementary and alternative medicine among dialysis patients. This may result from the fact that herbs may mimic, increase or decrease the effects of medications leading to alterations in the absorption, distribution, metabolism or excretion of medications. According to Akpan and Ekripo (2015) herbal products comprise complex substances with their synergistic effects resulting in kidney damage. Because of their unique structure and function, the kidneys are more vulnerable to toxic injury.

Kidneys receive twenty-five percent of cardiac output, are highly vascular and have a large endothelial surface. These characteristics which make kidneys perfect for filtration also mean that the kidneys surface comes into contact with many toxins. Vitamin C, Senna and bee pollen have been implicated in acute kidney injury (Tangkiatkumjai et al., 2015). The awareness of the increased risk of herb-drug interactions in patients on chronic haemodialysis may vary and thus some of these patients may take herbal medicine unknowingly. It is common practice to prepare the patient through education and counselling after a diagnosis of end-stage renal disease has been made.

2.11 Health Education for Patients on Chronic Haemodialysis

Chronic kidney disease is a very difficult diagnosis for patients to comprehend. Many patients feel overwhelmed and unable to control their condition thus it is important for the patient to receive intensive counselling and frequent health education interventions. According to Chan et al. (2014) this allows the patient to think of the end stage renal disease diagnosis alongside their beliefs and values and to facilitate adaptation to the patient's new life situation. However, sometimes haemodialysis is started in an emergency setting where patient preparation and education is not workable. At these times patients may not have the time to have the discussion that

will enable them to cognitively process and accept the dialysis diagnosis. This results in situations where patients may be unaware of the risk of negative herbal medicine and drug interactions. Some chronic haemodialysis patients may know the increased risk of drug-herb interaction as shown in the study conducted by Lopez-Vargaz (2014) and may want to know more about their condition. Patients require specific education about not only diet and fluid intake but also about the safety of medications.

This shows that the health education needs of patients are not the same and thus patients require an individualised approach if the education is to be successful. Enworom and Tabi (2015) state that chronic kidney disease focused education improves the way a patients manage their conditions effectively thus leading to an improvement in their quality of life. Chronic kidney disease focused education is low not only in the general population but also in patients with chronic kidney disease. The provision of relevant chronic kidney disease health education is the cornerstone of the adoption of good self-management interventions by patients on chronic haemodialysis. This provision can be possible if both patient and health care provider are communicating openly about the health education needs specifically herbal medicine and end stage renal drug therapy. Rivera et al. (2013) argue that it is important for the health care provider to ask what herbs or supplements the patient is taking as patients may feel intimidated and uncertain about what questions to ask their health care providers regarding the use of herbal medicines.

Studies have shown that herbal medicine use is prevalent in patients on chronic haemodialysis but there is a high level of failure to disclose its use because of the fear of disapproval from the health care provider. The other reason for the perceived absence of disclosure of herbal medicine use is the absence of enquiry of herbal medicine use by health care providers (Rao et al. 2016 and Lulebo et al. 2016). If patients are encouraged to be open about their use of herbal medicine through deliberate enquiry by health providers, sufficient data would be obtained. There is not enough data documenting the use of herbal medicine by patients on chronic haemodialysis.

Chronic kidney disease health education is not only inadequate, but it also lacks content on the interaction between the use of herbs and dietary supplements with conventional end stage renal disease therapy. According to Beraldo et al. (2017) in their review on the educational approaches focusing on the quality of life of people with chronic kidney disease receiving haemodialysis, they found that haemodialysis alone is not enough but relevant educational interventions should be incorporated effectively in the management of chronic kidney disease.

2.12 Gaps in Literature

The literature consulted shows that herbal medicine use by patients on chronic haemodialysis patients is prevalent however there is not enough data on this issue in South Africa. There has been research done on herbal medicine use in patients with hypertension, diabetes, cancer and on HIV positive patients. It is also clear that patients on chronic haemodialysis have a higher risk of developing negative herb-drug interactions because of the impairment of kidney function and comorbid conditions, a body of literature on this needs to be developed.

2.13 Conclusion

Deliberate enquiry on the use of herbal medicine is required to provide relevant and focused health education to improve patients' self-management activities thus leading to improved quality of life in chronic kidney patients. The next chapter will discuss the study design and the methodology.

CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY

3.1 Introduction

This chapter discusses the research design and the methodology used in the study, the setting, the study population and the sample. The chapter also discusses the data collection and data analysis techniques used in the study as well as the strategies for ensuring trustworthiness and some ethical considerations.

3.2 Research Design

A qualitative exploratory approach was used in this study. Burns, Grove and Gray (2013) define qualitative research as a systematic, interactive, subjective approach used to describe life experiences and give them meaning. Qualitative research is a method of enquiry in which the researcher, acting as a data collecting instrument, seeks to answer questions about how and why a particular phenomenon occurs (Miller, 2010). This research approach enabled the researcher to develop a rich understanding of the lived experiences and the factors influencing the use of CAM by chronic haemodialysis patients.

The study utilised an exploratory design. An exploratory study increases the knowledge of the field of study, however exploratory studies are not intended for generalisation to large populations (Burns, Grove and Gray, 2013). This research design enables the researcher to determine the nature of the problem and gain a better understanding of the problem (Polit and Beck 2012). This approach was used to help the researcher to gain insight into the use and factors influencing the use of herbal medicine in chronic haemodialysis patients in an academic hospital in Gauteng.

3.3 Research Methodology

3.3.1 Population

A population are the particular individuals or elements who are the focus of your research (Burns Grove and Gray, 2013). The study population included all the haemodialysis patients in the chronic haemodialysis unit in an academic hospital in the Gauteng Province. In March 2018, when the study was conducted there were 50 patients (N=50) enrolled in the chronic unit.

3.3.2 Inclusion and Exclusion Criteria

Chronic haemodialysis patients who were aged above 18 years, who were willing to participate, able to consent on their own and patients who had been under treatment through dialysis for longer than 6 months were included in this study.

The researcher believes that patients who have been on dialysis for over six months have been adequately exposed to the haemodialysis environment and have rich experiences they can share with others. Language was not part of the inclusion criteria to avoid excluding patients who had the required knowledge needed in this study.

Participants were excluded if they could not give consent on their own or were enrolled for acute haemodialysis. Patients who could not consent included those with mental illnesses such as dementia and confusion.

3.3.3 Sampling Method

Sampling is the process of selecting a portion of the population to represent the entire population (Polit and Beck 2012). The researcher used purposive sampling in this study. Palinkas et al. (2015) define purposive sampling as a sampling technique used for the identification and selection of a particular subset of people whilst rejecting people who do not conform to the set criteria. This sampling method enabled the researcher to get a sample of informants who had the characteristics

that the researcher was looking for to achieve the purposes of the study. This method also allowed the researcher to access participants who had authentic experiences which they were willing to share in relation to the research question.

3.3.4 Sample Size

Sample size is the number of subjects in a sample. In qualitative research the sample size is guided by the richness of the information required by the researcher. The guiding principle in qualitative research sampling is data saturation (Polit and Beck, 2010; Mason, 2010; Fusch and Ness, 2015). Data saturation is reached when no new information, theme or coding is obtained.

Burns, Grove and Gray (2013) state that when no new information is obtained with additional sampling, only the redundancy of previously collected information occurs. In this study the researcher collected the data until data saturation was achieved. In this study sample size was 12 participants (n=12). Since data analysis was done concurrently with data collection, data saturation was reached by the fifth interview. The researcher knew data saturation was reached when no new themes were obtained after the fifth interview but was advised to continue to twelve interviews.

3.3.5 Study Site

The study site is the area in which the researcher finds the potential informants required to answer the research question. The study was conducted in the chronic haemodialysis unit of an academic hospital in Gauteng. The site was selected due to ease of access, convenience and because it provided a reasonable number of the relevant population that the researcher wished to access.

Patients on chronic haemodialysis entered the unit three times a week, on selected days for their dialysis therapy sessions. A patient could attend either on Monday, Wednesday or Friday or Tuesday, Thursday and Saturday. The patients were then allocated either the morning session which started at 6 a.m. or the afternoon session which started at midday.

The unit in which the study took place was a 16 bedded unit and offered dialysis sessions to two groups of patients per day; namely morning and afternoon. Morning patients are connected onto the dialysis machines at 6 am and were on dialysis for four hours. The afternoon patients are connected onto the dialysis machines at mid-day for four hours.

The unit also had a waiting room where afternoon patients waited before they were connected as some of them arrived as early as 8.30 a.m. Morning patients could access the waiting room after they had completed their dialysis treatment for relatives or transport pickups. Across the hall there was a quiet room that was used for meetings when required which became accessible for interviewing the study participants.

3.4 Data collection

Data collection is the precise, systematic gathering of information relevant to the research purpose or the specific objectives, questions or hypotheses of a study (Burns, Grove and Gray, 2013). Data in this study was collected through in depth, semi-structured interviews using an interview guide. The interview method was chosen to allow the researcher to communicate directly with the participants and explore the experiences of the participants at an in depth level. The researcher chose the face-to-face interview method. Burns, Grove and Gray (2013), state that interviews help researchers to find material they may never have thought about asking.

3.4.1 Data Collection Instrument: Interview guide

The interview guide is a list of general topics that must be covered to direct the conversation between the researcher and the informant (Polit and Beck 2012 The study interview guide had four main areas of discussion:

1. Presence/Absence of Herbal Medicine Use

2. Common Herbal Medicines Used
3. Factors Influencing Herbal Medicine Use
4. Health Education Needs

The interview guide (Appendix 7) had open-ended questions to allow for probing and in-depth responses from the informants. To probe is to obtain more information in a specific area of the interview (Burns, Grove and Gray, 2013). The researcher could ask follow-up questions to enhance clarity and confirm participants' responses.

3.4.2 Data Collection Steps

The researcher recruited participants from the chronic dialysis unit of an academic hospital in Gauteng by approaching patients. The operational manager of the dialysis unit announced to patients collectively that a study was to be conducted by the researcher. Patients who showed an interest in taking part were then approached individually and were given the information sheet to read. They were afforded the opportunity to ask questions and were given consent forms. Thereafter patients who wanted to take part confirmed their willingness by signing the two consent forms. One consent form was for the interview and the other was for an audio recording of the interview.

A convenient time for conducting the individual interviews was chosen to ensure that dialysis was not interrupted. The selected time was during the period that patients were waiting (in the waiting room) for their turn to be connected onto the dialysis machine. At this point participants were taken into the quiet room down the corridor. This room had a table and two comfortable chairs. The room also had big windows to allow natural light in and a door that was closed to ensure privacy.

The researcher used a semi-structured interview comprising open-ended questions with probes to allow for an exploration of the participants responses. Interviews were conducted in English using the interview guide and were audio recorded. The interviews were audio recorded to ensure the accuracy of data collected.

Participants were informed that they could express themselves in another language when they could not express themselves fully in English. The researcher was fluent in English and isiZulu and therefore made arrangements for a translator for the other local languages she was not fluent in. However, there was no need for a translator since all the participants were fluent in isiZulu and used this language when they struggled with English.

The first interview was transcribed, analysed and sent to the researcher's supervisor for peer review to ensure that subsequent data collection and data analysis was consistent. This was done also to ensure that improvements were made during data collection and analysis processes. In total the researcher conducted 12 interviews. Thereafter transcription of subsequent interviews was done, following which the data was made ready for thematic analysis and sent to the supervisor for peer review. No identifying details were used and each participant was assigned a code that ensured confidentiality. The data will be stored for two years if this study is published but if it is not it will be stored for five years in a locked cupboard.

3.5 Data Analysis

Data analysis in qualitative studies according to Polit and Beck (2012) is a process of fitting data together, of making the invisible obvious and of connecting and attaching consequences to experiences. The purpose of data analysis is to organise, provide structure and elicit meaning from the data (Polit and Beck 2012). The data collected in this study was in the form of words, phrases and narrative experiences. The researcher used Braun and Clarke's thematic analysis method to analyse the data. This is an analytic method that requires the researcher to go through the data to identify meaningful segments and units. According to Braun and Clarke (2008) this method of analysis uses the following steps:

I. Familiarisation with the data: The recorded data was listened to repeatedly in the search for meanings and patterns. This audio data was then transcribed, and the transcripts were checked against original audio for accuracy.

II. Generate initial codes: The ideas of what was recurring within the data was then organised to form initial codes. This was done by identifying similar patterns

and through making notes on the transcribed data, these patterns were then grouped together to form codes.

III. Searching for themes: After coding the different codes were sorted into potential themes, these themes could be represented visually using a mind map.

IV. Reviewing themes: All collated extracts for each theme were read to try to identify if they formed a pattern. The themes that were forming an identifiable pattern were represented by a thematic map.

V. Defining and naming themes: The definition of themes was done by identifying themes and data relevant to the research question. Data extracts for each theme were organised into a coherent and consistent account with an accompanying narrative. This step produced the final thematic map.

VI. Producing the report: This step included the final analysis and write up of the report. Finally, the themes relevant to the use and the factors influencing the use of herbal medicine in patients undergoing chronic haemodialysis in an academic hospital were then reviewed. The codes were verified with the researcher's supervisor and another research student.

3.6 Trustworthiness

Polit and Beck (2010) stated criteria for testing quality in in qualitative research in their framework as credibility, dependability, confirmability and transferability.

3.6.1 Credibility

Credibility in research refers to the confidence in the truth of the data and the interpretations of them (Polit and Beck 2012 The researcher was involved in renal nursing for over five years and therefore was familiar with the treatment and culture of chronic haemodialysis patients. The researcher's supervisor was experienced in qualitative studies and was familiar with traditional medicine related studies. This means that two experts had relevant experiences, qualifications and knowledge in getting credible data for the study. To ensure honesty, informants were given the opportunity to decline or accept to take part in the study of their own free will. Rapport was created with those who were willing to participate. This was done to

make participants comfortable and enabled them to share their true experiences in anticipation that there would be no negative consequences.

The researcher recruited patients on chronic haemodialysis to be participants in the study according to the set criteria for inclusion into the study to share their responses in relation to the study's research question. This ensured credibility by ensuring that data was obtained from participants who had experiential knowledge of the area being studied. The researcher sought opportunities for peer scrutiny through colleagues who helped to identify gaps, develop ideas and interpretations and thus this improved the credibility of the study. The communication between the researcher and supervisor helped to widen the researchers view and identify and recognise shortfalls timeously.

3.6.2 Transferability

Transferability refers to the extent to which qualitative findings can be transferred to other settings or groups (Polit and Beck, 2012). To ensure transferability the methodology of the study was described adequately to illuminate all the processes and the context in which the study took place.

3.6.3 Dependability

Dependability refers to the reliability of data and interpretation of the data (Polit and Beck 2012). The researcher has documented the research design, data collection and data analyses processes were outlined to show to the reader that it is possible to replicate the study in both similar and different contexts.

3.6.4 Confirmability

Polit and Beck (2012) define confirmability as the potential for congruence between two or more people about the data's accuracy, relevance or meaning. To assure confirmability the researcher listened to the interview recordings repeatedly and utilised peer scrutiny to confirm the results.

3.7 Ethical Considerations

Since the study involved collecting data from patients the following principles as outlined by Polit and Beck (2012) were adhered to:

3.7.1 Permission to Conduct Study

The data collection process of the study only began after the required permission had been obtained from the relevant bodies including: The Human Research Ethics Committee (Medical) of the University of Witwatersrand for Ethical Clearance, Charlotte Maxeke Johannesburg Academic Hospital Chief Executive Officer and the Head of Department of the Nephrology Department (Appendix1, 2 and 3 respectively) Thereafter verbal permission was obtained from the Chronic Renal Unit's Operational Manager.

3.7.2 Respect for Human Dignity and Informed Consent

Before the interviews, interested participants were given information sheets about the study and were given the opportunity to make a decision to take part in the study, free from coercion. Participants then signed consent for both the interview and audio recording (Appendices 5 and 6). Participants were treated with respect throughout the research process, none of the participants were forced to take part in the study.

3.7.3 Privacy, Confidentiality, Anonymity

The interviews were conducted in a private room to ensure privacy and prevention of intrusion. Names of participants were not used during data collection. Data files did not contain information that identified participants and data was kept in a manner that ensured that participants could not be linked to their data. The data obtained was kept in a locked safe and only the researcher and the supervisor had access. Data will be stored for two years if study is published and for five years if it is not published.

3.7.4 Justice

Study participants were selected according to set criteria, the study population had an equal chance of participation in the study. All participants were treated fairly and courteously.

3.7.5 Beneficence and Non-maleficence

All measures were taken to avoid, prevent and minimise harm for the study participants. This was carried out by the interviewer being vigilant to any change in the demeanour and body language of participants that signified annoyance or an unwillingness to continue with the interview. None of the participants showed any emotional distress during the interviewing process.

3.8 Conclusion

This chapter was a discussion of the methodology used in the study, the study population and the study setting. This chapter also discussed the method of data analysis, strategies for trustworthiness and the ethical considerations adhered to in this study. The following chapter will discuss the results and findings of the study.

CHAPTER 4: FINDINGS AND DISCUSSION OF FINDINGS

4.1 Introduction

In this chapter the results of the study will be discussed and literature related to the findings will be explored. This study's purpose was to explore the use of herbal medication in chronic haemodialysis patients and the factors influencing the use. The demographic data of the respondents was comprised of age, gender, duration on dialysis and the cause of end stage renal disease as seen in table 4.1.

Table 4.1 Participant Demographics

Item	Category	Frequency	%
1	**Age**		
	21-29 years	2	16.6%
	30-39 years	2	16.6%
	40-49 years	2	16.6%
	50-59 years	3	25.0%
	60-69 years	3	25.0%
2	**Gender**		
	Male	4	33.3%
	Female	8	66.6%
3	**Duration on Dialysis**		
	0-4 years	3	25.0%
	5-9 years	4	33.3%
	10-14 years	3	25.0%
	15-19 years	1	8.3%
	20-24 years	1	
4	**Cause of ESRD**		
	Hypertension	7	58.3%
	Diabetes Mellitus	1	8.3%
	Glomerulonephritis	1	8.3%
	Polycystic Kidney	1	8.3%
	Unknown	2	16.6%
5	**Use of Herbal Medicine**		
	Never Used	6	50.0%
	Used before dialysis initiation	6	50.0%

Table 4.1 shows that out of the total sample (n-12) 66.6% were female and 25% of the participants were aged between 50-59 years. It can be seen from these findings that female were predominating in the sample. 33.3% of the participants have been on dialysis between 5-9 years. 58.3% of the participants stated that their cause of end stage renal disease was hypertension.

The interviews conducted yielded 5 themes and 11 subthemes as illustrated by Table 4.2 below.

Table 4. 2 Themes and subthemes

Themes	Subthemes
1. Participants' definition of herbal medicine use	1.1 Beliefs in herbal medicine use 1.2 Basic knowledge of the impact of herbal medicine use on kidney function 1.3 Plants used, their sources and their preparation
2. Participants' views of herbal medicine use	2.1 Participants views of concurrent herbal medicine use in chronic haemodialysis patients 2.2 Experiences of using herbal medicine
3. Previous Herbal Medicine Use	3.1 Perceived benefits of herbal medicine use 3.2 Influences of herbal medicine use
4. Current herbal medicine use	4.1 Absence of current use of herbal medicine in haemodialysis patients 4.2 Influencing factors for absence of use
5. Knowledge Deficit	5.1 Current health education strategies 5.2 Haemodialysis patients' health education needs

Table 4.1 above shows the subthemes that emerged from patterns in the data. These were the themes relevant to the research questions, "**How do chronic haemodialysis patients view and define herbal medicine use, what are the**

factors influencing the use of herbal medicine by chronic haemodialysis patients and what health education do chronic haemodialysis patients receive and require regarding the use of herbal medicine by chronic haemodialysis patients?"

4.2 Discussion of Themes and Subthemes

The five themes and their subsequent subthemes are discussed in relation to the participant statements.

4.2.1 Theme 1: Participants' definition of herbal medicine use

Three subthemes were deduced from the patient's definitions of herbal medicine use, these were beliefs in herbal medicine use, basic knowledge of the impact of herbal medicine on kidney function and plants used and their sources and preparation.

"I think it is when you use herbs to cure your illness, something that does not need a doctor" (CHP 6).

"I think it's the use of other medicines made by other people with herbs or plants and you can take it for any illness" (CHP 11).

"The use of plants for medication, I think there are many plants that can be used as medicine" (CHP 10).

"Herbal medicine is when you use medicine made from plants or herbs to make yourself better" (CHP 12).

4.2.1.1 Beliefs in herbal medicine use

The participants in this study expressed differing views on the use of herbal medicine in chronic haemodialysis patients. Some participants believed herbal medicine is useful for patients with kidney problems. These were the statements of the participants in relation to beliefs in herbal medicine use:

"Herbal medicine, I think it helps in cleaning the blood and also to boost the organs, to stay clean and (clears throat) to run properly in your body, I think (CHP 1)."

"Herbal medicine, I think it's good because I once used it. Umzala wabe uyena obethengisa (My cousin is selling herbal medicine). So he suggested that there is this medicine; I don't remember the name but he told me that I must use it because it's for the kidney patients (CHP 2)."

"Herbal medicines do work but for me I don't use them that much but they work, I do believe that they work (CHP 3)."

***"**Herbal medicine is good because it can get rid of a lot of things like if you're sick or you have bad luck you can have some herbal medicine to help you" (CHP 7).*

*"Herbal medicine is part of us as people, these plants grow on their own and no one waters them. That is nature and it is good. Natural things are good for our bodies because they can get rid of any illness that is there" (CHP 10**)**.*

"I don't know much about it. I know that it works for those who use it since its natural, from plants I mean. Personally I don't know how it really works" (CHP 12).

4.2.1.2 Basic knowledge of the impact of herbal medicine on kidney function

The participants in this study showed that they have a basic understanding of kidney function. They were able to explain their understanding of kidney function as seen in the following participant statements:

"The doctor told me that the work of the kidney is to take out water and waste from the body so now that the kidneys are not working well the machine is now doing the work of the kidneys." (CHP 7)

"…….. The kidney is supposed to clean out the blood and take out the water that is not wanted by the body out as urine. So if your kidney is not working the blood becomes dirty and your body swells" (CHP 10).

"The kidneys work is to remove the extra salts, wastes and water from the body when the blood passes through it. All these things will come out with the urine. If your kidneys are not working then all this will not happening well you know" (CHP 11).

In this study the chronic haemodialysis some patients showed inadequate basic knowledge of kidney function especially in relation to herbal medicine use as seen in the following participant's statement:

"So that medicine I was drinking it was taking that dirt, Asusa ukungcola kuze asebenze kahle amakidneys ami (to remove it over there so that the kidney can work). But they said that if I started this medicine when I was still an acute (kidney patient), some of the patients their kidneys are working now they are not dialysing anymore. So because I'm a chronic patient they did explain to me that it might work or might not work (CHP 2)".

4.2.1.3 Plants used, their sources and their preparation

In this sub theme, the participants mentioned the types, sources and names of the plants that they commonly used as herbal medicine for kidney disease. Examples of types of herbs used as an alternative medicine were described in the following statements:

"Then they will advise you to try this like (pause). I don't remember this, like these chillies (pause). I don't know how to put it. Something… "Cayenne pepper! I want the name cayenne pepper (CHP 1)".

"My in-laws are staying in (area withheld). So the moringa is in the yard," (CHP 2).

On the other hand, 3 out of 5 participants were not able to recall the specific names of the herbs/plants they used. An example is of one participant who stated the following:

"(Pauses) I can't remember what I have used before, but I remember buying something from Table Charm……..." (CHP 3).

"Various places sometimes he buys what he can't find from the mountain but he always makes it according to who the medicine is for "(CHP 7).

"I mean that a person can just get a plant and crush it and make medicine with it." (CHP 11).

***"I** think it's the medicine you get from the traditional doctor like plants and herbs that they make you drink. They give you this if you are sick and you want to get better" (CHP 12).*

Herbal medicine is no longer only found in the form of dried roots and tree barks, but is attractively packaged and comes in divergent forms. Herbal medicines are advertised on television, in newspapers and in online shops. Some of these herbal medicines may be sold under attractive lifestyle brands such as Table Charm, Forever Living and Herbalife. Individuals who are in favour of using herbal medicine are convinced of the advertised benefits of the medication. This is depicted in the following statements from the participants:

"Yes, they are packaged nicely it's in a bottle. Brown bottle with the instructions in it, on a small paper that they stick on the bottle" (CHP 2).

"…….. but I remember buying something from Table Charm; they were selling a variety of herbal medicine and I bought the one for kidneys," (CHP 3).

4.2.2 Theme 2: Participants view of concurrent herbal medicine use in chronic haemodialysis patients

This theme had two subthemes namely the participants' views of herbal medicine use and personal experiences with herbal medicine use.

4.2.3.1 Participants view of concurrent herbal medicine use in chronic haemodialysis patients

The views of the study participants suggest that they were all aware of the effects of herbal medicine use whilst on chronic haemodialysis. The participants' knowledge about the concurrent use of herbal medicine with haemodialysis is illustrated in the following statements:

"What I have observed about herbal medicine their effect mostly contradicts dialysis therapy. Because a lot of things involve liquid, lots of liquid. Once you are on dialysis you don't have to take lots of liquid," (CHP 3).

"….. we are not the same and when we are not the same, we grew from differing family backgrounds because when you are under the supervision of the doctor, you don't use any other thing. See how the doctors work because there is one body if you use the doctor's medicine and traditional medicine, or spiritual concoctions, you see and mix, I don't know if it will heal me or kill me you see, yeah "(CHP 4).

"If someone wants to go the traditional route, they must go to the doctor first. So that they find out if their kidneys are well and if they are damaged at what level the damage is. You know kidney failure is not the same; it differs from person to person," (CHP 5).

While many of the participants expressed knowledge of the effects of concurrent herbal medicine use in chronic haemodialysis two participants favoured the concurrent use of herbal medicine in chronic haemodialysis.

"I would continue (with enthusiasm) to see where it (was) going take me because I was seeing just some… ibisebenza yazi(it was working you know) (Pause) I could see that there was a hope that for me my kidney would work," (CHP 2).

"*Yes, I am using an herbal concoction made by my cousin to help keep my blood clean and keep me strong and healthy" (CHP 7).*

Participants shared some of their experiences with herbal medicine use some of which were positive. This is seen in the statement below:

"Yes. So, when I visit them, they just take the moringa in the yard and boil it for me. Leave it there to cool and after that I drink maybe half a cup every day. It was helping me. While I was there, I was not dialysing because I thought at (name withheld) they

will give me a slot (for dialysis). And they said no they are full they can't dialyse me. I stayed in (name withheld) for 10 days without dialysis," (CHP 2).

"*Yes, I am using an herbal concoction made by my cousin to help keep my blood clean and keep me strong and healthy" (CHP 7).*

Not all participants in the study had a positive experience after their use of herbal medicine. One of the five participants had this to say:

"You know what, when my sickness started, I was using these herbal medicines, and they never helped me until I came to hospital. So, these people will make you drink a 5L of fluid whereas now your fluid is restricted and this fluid stays in your body and it is no longer taken out then your face becomes swollen and so do your hands. Until I came to hospital, and they drained this fluid," (CHP 5).

Participants shared different views on how herbal medicine was experienced, however, it is not possible to compare and contrast their subjective experiences as the participants were not exposed to the same herb or plant parts and there could be other unknown factors at play.

4.2.3 Theme 3: Previous herbal medicine use

The theme previous herbal medicine use illuminates the participants' views about perceived benefits as well as the factors that influence the use of herbal medicine. There were two subthemes in this theme namely influences of herbal medicine use and perceived benefits of herbal medicine use.

4.2.3.1 Perceived benefits of herbal medicine use

Patients on chronic haemodialysis have to adopt changes such as adjusting their lives, it is possible for them to be drawn to herbal medicine as it is perceived to give them some relief. Perceptions about illness and the self-management activities that patients engage in are shaped by what they know and what they wish their health situation to be. In this study participants expressed a desire to improve their kidney functioning thus their history of herbal medicine use is aligned to their need to improve their chronic condition. The perceived benefits of herbal medicine use are presented in the following statements:

"So I bought it. But to me it was working because I was having some pains here at the back (points to lower back) like it's trying to remove that dirt," (CHP 2).

"It cleans the kidneys so that they work well. I bought one for the kidney and one for immunity" (CHP 3).

"This medicine helps to give me strength and cleans my blood, even my blood pressure is ok now. You know with this disease you feel tired and as a man there is no way you cannot be strong. A man must be strong. I can walk on my own, even the garden at home is in good condition because I have the strength to work on it" (CHP 7).

Six out of twelve participants stated that they had used herbal medicine prior to starting dialysis therapy. They mentioned various influences of their previous herbal medicine use as seen in these statements:

"*I normally never used herbals most of the time, its only if maybe I've been advised to try this one, it helps you to like rebuild that part in your body. Yes" (CHP 1).*

"Yes, I have used herbal medicine before. At home we used herbal remedies for almost everything in life. My grandfather was a traditional doctor and he was making a living by healing people with herbs that he got from the veld and mountain. Even us when we were unwell we would be given some herbs, sometimes mixed or not. And we would get better from the illness" (CHP 7).

"Yes I have used it, at home it is the first thing we look at before we go to the hospital" (CHP 10).

4.2.3.2 Influences on herbal medicine use

In this study it was identified that significant others present in an individual's life or circle of influence play a big role in influencing the use of herbal medicine. The participants supported this with the following statements:

"I got that like from; there (is) a lady opposite my home, she's selling some kinds of herbs. Yes. So she did tell me "you must use this thing, instead of being afraid because you've got ulcers. That thing it also clears stuff that causes the ulcer" (CHP 1).

"My in-laws are staying in (area withheld). So the moringa is in the yard," (CHP 2).

"First it was because they were sold by my aunt and I wanted to support her and she also believed and you know when people are canvassing looking for clients (laughs) they will tell you that this product is good for cleaning this and this, so I bought it. I saw that it was working," (CHP 3).

"I started feeling better and things were ok for some time. But late last year I started feeling tired all the time and that made me feel down. So I went to my cousin and we

sat down and we discussed my condition. And my cousin's medicine is working. I am better now" (CHP 7).

4.2.4. Theme 4: Current Herbal Medicine Use

This theme illustrates the status of herbal use among the participants who were on chronic haemodialysis. The following subthemes were highlighted, the absence of current use of herbal medicine in haemodialysis and the influencing factors for absence of use.

4.2.4.1 Absence of current use of herbal medicine in haemodialysis patients

Study participants stated that they were not using any herbal medicine, this included those who had previously had positive experiences with herbal medicine. Participants also said they preferred to align themselves with what their health care providers had recommended for them, or the medication that had been prescribed by the doctor. This is what the participants stated:

"At the moment no, I'm not," (CHP 2).

"Currently I'm using medication (haemodialysis) now because now as you see me alright as I am, let's say they say I mustn't eat an apple and then I eat it and then the next thing I'm not alright you see, so I prefer to stick to the hospital diet as it's better that way," (CHP 3).

"Ai, I don't temper with those things and they know it," (CHP 4).

"No, it never happens I only take the medication that has been prescribed to me by the doctor" (CHP 5).

“Me? No, I’m not using anything. I only use the medicines that I get here at the hospital” (CHP 6).

One out of five participants stated that she would have continued with her herbal medicine use had she not run out of money.

“So I told him that I can see that it’s working for me because I’m a chronic patient I can’t take it anymore. And the money is a problem” (CHP 2).

When the participants were asked about herbal medicine use in other chronic haemodialysis patients, they gave the following responses:

“Some of them are not; they are not like using any of those herbals. Because the doctors are telling us that if you have started dialysis there is nothing that can help you. So we believe the doctors. But when somebody comes to you and sells the herbal medicine telling different stories. And you do it on your own you can’t tell the doctor if you’re using something on the other side. You do it so that you can see the difference because the doctor is saying this but somebody is coming to me and explaining that “I can help you man, your kidneys can work again” (CHP 2)

“Yeah, I think there are patients who are using it. And if it works for you, then I think you can continue to use because the way I see it we are (renal patients) not all the same," (CHP 3).

“I have heard some patients discussing it but I’m not sure what it really is, or what’s happening there” (CHP 5).

“You know sometimes you would hear other people discussing about somethings that help you feel less tired and improve your appetite and make you feel better but I

never really pay much attention. Some of the people may be using some herbal medicine that they buy" (CHP 6).

"Yes, patients on dialysis may use herbal medicine but they will not tell anyone that they are using herbal medicine. People will talk amongst each other and they will be quiet if there is someone they do not trust" ((CHP 10).

Participants stated that the use of herbal medicine is present in haemodialysis patients but they were not specific on how and what was currently being used. Participants further revealed that herbal medicine use is kept discreet and the health care providers are not informed about it.

4.2.4.2 Influencing factors for absence of use

Participants stated that they were offered health education before they started dialysis. Educating the patient in the initial phase prepares and initiates the patient to better understand their health condition and to assess what treatment is available for their condition. It is also necessary to include information about herbal medicine use in chronic haemodialysis patients as well as its effects on kidneys that have failed. However, the participants' views indicated that their health education focused mainly on adherence and compliance to conventional dialysis therapy only. This is what the participants said:

"It's not good because when you are a new patient on haemodialysis you're being advised not to use herbs. You only take the things that are being provided by the doctors. Before you start dialysis; so I explained because they asked me to truthfully tell them what herbal medicine I was using. I told them what I had used and they told me that the herbal medicine I had used had also contributed in causing the kidney becoming like this" (CHP1).

“They said to us ‘when you start dialysis, you don’t use the traditional doctor’s medicine even the herbal you don’t use them. You use only dialysis and the pills that we give you only” (CHP2).

“Herbal (pauses) the doctors sometimes joke “don’t ever use traditional medicine” but for them to tell us here in hospital about herbal medicine no they don’t. They only tell us not to use it and that’s it” (CHP3).

“Coz I remember… (pauses) once they were saying don’t use any herbal medicine because that’s why the dialysis medication is not working because if you use other things let’s say you were given antibiotics and then you go and use herbal medicine on the side you may come back with even bigger problems," (CHP3).

“They told me that I must not take any other medicines only use the ones that have been given by the doctor. They told me I had kidney failure and kidney failure requires only the medications that they will prescribe and there will be a difference in my illness with dialysis after 3 dialysis sessions I saw the difference, I started feeling better “(CHP 5).

“They said I must always take the medicines that they will give me because medicine from the traditional doctor will finish what’s left of my kidneys” (CHP 6).

“I prefer medicine from the doctors because I know it has been tested and it has worked for many other people and it works for me. I like what I’m getting here and I don’t want anything more complicated” (CHP 9).

All the participants in the study stated that they received health education prior to starting dialysis. Participants clearly stated that they were discouraged from any use of herbal medicine.

4.2.5 Theme 5: Causes of the knowledge deficit

The theme causes of knowledge deficit indicates the gaps identified by the study participants regarding chronic haemodialysis health education and their educational needs. Two subthemes emerged under this theme, firstly, current health education strategies and secondly, haemodialysis patients' health education needs.

4.2.5.1Current health education strategies

Patient education is important for improving patient outcomes. Under normal circumstances patients are supposed to receive health education from their health care providers but in this study this was not the case. The nurse-patient interactions were not effective in assisting patients who were undergoing chronic haemodialysis. Furthermore, the study participants reflected that access to health education or health information depends on one's ability to establish close relationships with the healthcare providers, as highlighted by the following statements from the participants:

"Ah no, unless you become close to a certain sister then (they) keep on reminding you, yes but also the senior sister like (name withheld). Yes ". (CHP 1)

"I go back to the doctor and say 'Doctor I have this medicine or these pills and he would say eh-eh this one you can drink but this one you can't drink it because if you drink it your kidneys are going to burst" (CHP 2).

"I and my nurse will sometimes discuss medicine that I have maybe seen on TV like when they advertise (item name withheld) or this other one (pauses) for ulcer. The one similar to Eno what's it called (item name withheld), I will ask my nurse if I can use it, but herbal we don't touch herbal issues," (CHP 3).

4.2.5.2 Chronic Haemodialysis Patients' health education needs

Patients on chronic haemodialysis expressed the need for opportunities to have patient education on how to adapt better to their chronic condition and improve their quality of life. Participants felt that there are areas in their treatment they would like clarity on. Participants in this study expressed the need for more open communication about the relationship between kidney function, haemodialysis and herbal medicine and proposed ways in which this could be meaningfully be carried out:

"In what way? If we got discussions most of the time, at least you become reminded," (CHP 1).

"Jah, I think it is important that we discuss and even the limitations of herbal medicine we can do minor things like this and that (gestures with hands) from this point to this point, aai! No go area" (CHP 3).

"People need workshops, workshops are needed to help people to clearly understand, people need someone to be there to explain and assist them to really understand," (CHP 5).

"Advertisements would work. It must be open, like the way HIV is advertised, everywhere you go you find information about HIV. On radio and TV you see it all the time," (CHP 5).

"The phone is good for sharing information for example WhatsApp groups and Facebook pages that give us information where we are at any time" (CHP 9).

4.3 Conclusion

This chapter was outlining participants' perspectives on factors influencing the use of herbal medicine by chronic haemodialysis patients in terms of the five themes and eleven subthemes. Participant responses show that the use of herbal medicine by chronic haemodialysis patients is present and family, friends, media and other patients are some of the influencing factors.

The responses also show that participants were given health education during initiation into dialysis therapy and they also express their need for this health education to be made more available through various forms such as television, radio, social networks and also in print media. The following chapter will conclude the research report with the discussion of findings, recommendations and limitations of the study.

CHAPTER 5: DISCUSSION OF THE STUDY FINDINGS, RECOMMENDATIONS, LIMITATION AND CONCLUSION

5.1 Introduction

This chapter discusses the main findings and conclusions derived from the findings of the study. The recommendations and limitations of the study are also discussed. The research questions in this study were "**How do chronic haemodialysis patients view and define herbal medicine use, what are the factors influencing the use of herbal medicine by chronic haemodialysis patients and what health education do chronic haemodialysis patients receive and require regarding the use of herbal medicine by chronic haemodialysis patients?"** The purpose of the study was to explore the use of and the factors influencing the use of herbal medicine in chronic haemodialysis patients to inform health care providers on the specific health education needs of these patients.

5.2 Discussion of Findings

The findings of the study are discussed in relation to the five themes and eleven subthemes that were identified during data analysis to answer the research questions.

5.2.1 Theme 1: Participants' definition of herbal medicine use

Herbal medicine use is present in chronic haemodialysis patients. Participants were able to describe in simple terms what the term herbal medicine meant to them. They outlined that they believed that it was the use of plant based products for making themselves better if they have various minor ailments. This study's findings showed that all the participants interviewed in this study had a history of herbal medicine use. They stated various reasons for this use such as the relief of stomach ulcers, back pain and fatigue. The participants in this study showed a preference from using herbal medicine from known and unknown plant sources. These results are similar to those found in other studies (Stanifer et al. 2017; Bahall, 2017 and Ukwounu et al.

2014). Some of the participants in the study expressed beliefs that herbal medicine does work in alleviating some of the symptoms they may have from time to time. Bahall (2017) conducted a study on the use of complementary and alternative medicine and found that patients who believed herbal medicine worked for them were more likely to explore its use. Similarly, Jayanti et al. (2016) in their study on illness beliefs in end stage renal disease and associations with self-care modality choice found that individuals drew on their personal beliefs to deal with a threat to their health. In this study the participants showed that beliefs play a role in how individuals manage their chronic health condition. Bahall (2017) recommend that health care providers be deliberate in their assessment of patients that are in their care to assist in aligning goals for patient care and patient beliefs.

Participants in the study were able to explain in basic and simple terms what kidney function was in simple terms. This finding is similar to the one found by Bahall (2017) and Birdee et al (2013) who found in their respective studies that patients are aware of the basic kidney functions and will self-manage the symptoms that may arise on their own. In this study some participants stated that they had used plant based remedies not only before chronic haemodialysis treatment but also for minor ailments that that they found were not eased by conventional dialysis therapy. The participants mentioned moringa, cayenne pepper and herbal medicine bought from Table Charm and one mentioned herbal medicine that was sold by a doctor. This finding gives evidence of the presence of herbal medicine use in chronic haemodialysis patients. The evidence of herbal medicine use in chronic haemodialysis patients in this study is similar to that found by Hughes et al. (2013), Lulebo et al. (2017), Ayele et al. (2017) and Bahall (2017) when studying herbal medicine use in patients with chronic conditions such as hypertension, elderly patients and patients with end stage renal disease on haemodialysis.

Participants in their studies preferred to use biologically based complementary and alternative therapies such as medicinal plants. Moringa is a plant whose leaves, bark, flowers, fruit, seeds and root are used to make medicine for a variety of ailments including high blood pressure, swelling and kidney stones. Moringa has antifungal, antiviral, antidepressant and anti-inflammatory properties. Individuals using moringa

are less likely to develop kidney stones, oedema and thick arteries. It is evident from these benefits why patients on chronic haemodialysis may use moringa. However, moringa should not be taken with antidiabetics and antihypertensive as the concurrent use may cause hypoglycaemia and hypotension which may be fatal (Cadman, 2017).

Other commonly available plants such as cranberry, liquorice, devils claw and star fruit have been implicated in nephrotoxicity. Nudrat and Naira (2016) in their research article titled, “Toxic effects because of herbal medicine intake,” found herbal medicine can be bought and sold with no prescription or recommendation from a health care provider by anyone. Herbal medicine products are accessible and sold in a variety of outlets and are available from a number of different sources. Nudrat and Naira (2016) stated that a variety of herbal medicines found in the market are sold by unqualified practitioners who may not know of any adverse effects that may result from herbal medicine use. They recommend that any medicine be controlled with guidelines and frameworks to protect the individual patient.

5.2.2 Theme 2: Participants Views of herbal Medicine Use

Some participants views related to the use of herbal medicine were of a favourable nature and in this theme participants also told of the different experiences related to herbal medicine use. The majority of participants in the study stated that they viewed it as something good as it helped them with some of the minor ailments. One participant went on to state that she would have continued her herbal medicine use since she felt that it was working but had to stop due to lack of finances. Another participants stated that they are using herbal medicine whilst receiving herbal medicine.

Another finding of the study was that patients often become frustrated with the effects and complications of chronic kidney disease and long-term dialysis resulting in them opting to use complementary and alternative therapies such as herbal medicine. Health care providers are often unaware of these actions. Lopez-Vargaz et al. (2014) had similar findings that revealed that patients with chronic kidney disease are proactive and experiment with natural therapies. However, not all

participants expressed this belief, and this was found in Grivas et al., (2013) whose study revealed that being aware of the risks of herbal medicine use acted as a deterrent and that is why some patients reported not using any herbal medicine. The absence of herbal medicine use in chronic haemodialysis could be influenced by the patients' beliefs and perceptions about their chronic kidney disease. This study found that participants had differing experiences with herbal medicine use. Some participants stated that herbal medicine was working for them while others expressed that herbal medicine had not worked in their favour until they sought help from a hospital.

5.2.3 Theme 3: Previous herbal medicine use

About half of the participants in the study stated that they had used herbal medicine for various reasons before they were initiated on dialysis. Family members, friends, neighbours and acquaintances were found in this study to exert a formidable influence on participants herbal medicine use. It shows that collective beliefs and perceptions that are held by the community or groups of individuals also influences the patients' decision making related to health issues. Hughes et al. (2013) had similar findings in their study where family and friends were identified as having played a significant role in influencing herbal medicine use in patients. Ghane et al., (2016) in their study on the effectiveness of problem focused coping strategies on the burden of caregivers of haemodialysis in Iran found that family members are responsible for the care of patients outside of the hospital. These family members are often lacking in understanding and expertise related to the management of ESRD and the effects of chronic haemodialysis.

5.2.4 Theme 4: Current Herbal Medicine Use

In this study the majority of participants stated that they were not using any herbal medicine, this included those who had previously had positive experiences with herbal medicine. Participants also said they preferred to align themselves with what their health care providers had recommended for them, or the medication that had been prescribed by the doctor. However one participant stated that he was using

herbal medicine whilst still receiving haemodialysis therapy. This is similar to what was found in Rao et al., (2016) who conducted a study on the usage of complementary and alternative medicine among patients on maintenance haemodialysis; they found that almost a third of their participants were using some form of complementary and alternative medicine .

5.2.5 Theme 5: Causes of Knowledge Deficit

Nurse-patient interactions are key to improving patient outcomes and ensuring that the care provided is used effectively. In this theme two subthemes were identified; the current health education strategies outlining the health education that patients on chronic haemodialysis receive and the health education needs that participants have in relation to herbal medicine use.

Participants felt that a supportive environment for the discussion of sensitive issues such as herbal medicine use would assist them to be more direct in stating their needs. Participants further stated that they need to be taught more about their condition especially kidney functioning and how dialysis therapy works in end-stage renal disease.

The researcher found that specific reasons of why herbal medicine should not be used in chronic haemodialysis patients were not communicated to patients. Participants stated that they were told not to use any herbal medicine at any cost but it was not explained what the consequences of using herbal medicine on impaired kidneys. This shows that patients' knowledge of kidney function is inadequate. Lopez-Vargaz et al., (2013) state that the diagnosis of chronic kidney disease may be difficult to understand and confusing. It is important for healthcare providers to identify patient health education needs on a regular basis. When patients understand health information, they are less likely to engage in self-care interventions that will impact negatively on their quality of life.

The participants suggested that regular discussions and learning opportunities be facilitated. Lai et al. (2013) concur with these findings by saying that constructive nurse-patient interactions empower the patients with skills to understand health information effectively. Participants in the current study revealed the specific

strategies that need to be used to assist in educating them about kidney functioning and the need to be regularly reminded and updated on new information. It was further revealed that some participants felt that new information and newer treatments for chronic kidney disease would not only give them hope but would help them adhere better to their current dialysis therapy.

The study findings revealed that there is limited information available about chronic kidney disease and haemodialysis. Such information should be made available in a variety of media such as informational billboards, television and radio adverts. These findings were documented by Lopez-Vargas et al. (2014) in their study on the knowledge deficit of patients with stage 1-4 chronic kidney disease where participants stated that chronic kidney disease information should be made readily available in all types of clinics to target all sectors of the population.

5.3 Recommendations

The recommendations arising from this study are as follows regarding nursing practice, education and research.

5.3.1 Nursing Practice

It is important for nurses to deliberately create multiple opportunities for discussing the issues related to herbal medicine use. Having an in-depth knowledge of the characteristics of the population they serve, can help to anticipate health education needs and concerns before any negative consequences arise. Nurses need to use neutral language when communicating about herbal medicine to help foster trust in their patients which will encourage patients to communicate their concerns on herbal medicine use and alternative self-care interventions with no fear or embarrassment.

The researcher recommends that nurses to undergo regular in-service training to enable them to upskill themselves in communication skills and patient behaviour change strategies that will enhance effective communication and foster trust between

patients and their nurses. Patient education plans need to include a component of herbal medicine use to facilitate nurse patient discussions regarding the issue and to help to identify individual patient needs about herbal medicine use. This will facilitate honesty in nurse-patient communication and solve challenges related to herbal medicine use in patients on chronic haemodialysis.

The data in this study has shown that family and friends exert a lot of influence in the decision making done by patients on chronic haemodialysis. It is recommended the family education programs be developed to equip families with relevant information and skills with which they can assist and improve the quality of life in patients on chronic haemodialysis. Since family support is key in patient compliance to dialysis it is recommended that family support groups be established to strengthen not only their skills in supporting and caring for the patient but also to share relevant information and experiences.

5.3.2 Nursing Education

Nurse educators need to integrate and update information on herbal medicine use by patients into their curricula as part of complementary and alternative medicine topics in the different clinical specialities. This will assist students to have a wider view of what treatment options patients are interested in apart from conventional medicine. This will also prepare students beforehand by empowering them with relevant assessment and health education skills.

Opportunities need to be created where students can interact with conventional medicine and CAM practitioners to get information on how to communicate effectively with patients or situations involving herbal medicine use. This will also help to decrease the knowledge gap in students and empower them with skills required to educate patients appropriately. The researcher also recommends that for nursing education an emphasis on family support educational programs be integrated into the nursing curriculum both at undergraduate and postgraduate levels.

5.3.3 Nursing Research

Research on the specific components of what nurses educate patients on in relation to complementary and alternative therapies and self-care interventions is required. This would also assist in identifying perceptions of nurses on the use of herbal medicine by patients and encourage open and honest discussion between nurses and patients on chronic haemodialysis. The Department of health can play a role by developing guidelines for patient education on chronic haemodialysis through the different media that were identified by the participants in this study.

The integration of family education programmes in families with patients with chronic health conditions including end stage renal disease. The department can also provide in-service training for nurses to provide them with skills and expertise to improve the delivery of health education to their patients. Further research needs to be conducted to formulate specific patient teaching plans and guidelines.

5.4 Limitations

The study setting was an academic hospital which is a major referral hospital therefore cannot be generalised to other chronic haemodialysis patients in a different setting.

5.5 Conclusion

The purpose of the study was to explore the use and the factors influencing the use of herbal medicine in chronic haemodialysis patients to inform health care providers on the specific health education needs of these patients. The results of the study show that patients on chronic haemodialysis are likely to have a history of using an alternative and complementary therapy especially herbal medicine as part of their self-care interventions.

This herbal medicine use is not discussed openly as those who practice it are embarrassed to express their use and concerns about it. This may be because the health education received at the start of dialysis is inadequate. Patients are told not to use herbal medicine, but it is not explained to them what the effects of herbal medicine use are on their failing kidneys.

The study also revealed that those who use herbal medicine fear that should they disclose the use of herbal medicine the care that they receive may be withdrawn and they may lose their dialysis slots. It was also revealed that the lack of disclosure and open communication impacted negatively on the morale of patients thus widening the gap in nurse–patient interactions.

The nurses providing care for chronic haemodialysis patients already have opportunities they can utilise to strengthen patient education and this could help improve patient care and knowledge. It is therefore important for nurses to not only identify what patient health education needs are but to draw on the knowledge and evidence of herbal medicine use in patients. This evidence can be obtained through deliberate enquiry during individual patient assessment. This will aid in the formulation and implementation of relevant patient education interventions.

It can be concluded from the participants' responses that open and honest communication about herbal medicine use in can help improve adherence to haemodialysis therapy and improve patient outcomes. Both nurses and doctors play a role in education patients and therefore it is the role of the department of health to provide in-service training for them. More resources need to be invested in patient education to enhance the clear understanding of what chronic kidney disease is and what self-care interventions are required.

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APPENDIX 1: ETHICS CLEARANCE CERTIFICATE

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

R14/49 Ms Simangele Shongwe-Nxumalo

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)

CLEARANCE CERTIFICATE NO. M171004

NAME: (Principal Investigator)	Ms Simangele Shongwe-Nxumalo
DEPARTMENT:	Nursing Education/School of Therapeutics Charlotte Maxeke Johannesburg Academic Hospital Area 475 - Chronic Dialysis Unit
PROJECT TITLE:	The use of Herbal Medicine in Chronic Haemodialysis Patients and Influencing Factors in an Academic Hospital in Gauteng
DATE CONSIDERED:	27/10/2017
DECISION:	Approved unconditionally
CONDITIONS:	
SUPERVISOR:	Mrs Disebo R. Maboko
APPROVED BY:	Professor CB Penny, Chairperson, HREC (Medical)
DATE OF APPROVAL:	13/03/2018

This clearance certificate is valid for 5 years from date of approval. Extension may be applied for.

DECLARATION OF INVESTIGATORS

To be completed in duplicate and **ONE COPY** returned to the Research Office Secretary, Third Floor, Faculty of Health Sciences, Phillip Tobias Building, 29 Princess of Wales Terrace, Parktown, 2193, University of the Witwatersrand. I/we fully understand the conditions under which I am/we are authorized to carry out the above-mentioned research and I/we undertake to ensure compliance with these conditions. Should any departure be contemplated, from the research protocol as approved, I/we undertake to resubmit the application to the Committee. **I agree to submit a yearly progress report**. The date for annual re-certification will be one year after the date of convened meeting where the study was initially reviewed. In this case, the study was initially reviewed in **October** and will therefore be due in the month of **October** each year. Unreported changes to the application may invalidate the clearance given by the HREC (Medical).

Principal Investigator Signature Date

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

APPENDIX 2: PERMISSION TO CONDUCT STUDY

GAUTENG PROVINCE
HEALTH
REPUBLIC OF SOUTH AFRICA

CHARLOTTE MAXEKE JOHANNESBURG ACADEMIC HOSPITAL

Enquiries:
Ms. G. Ngwenya
Office of the Nursing Director
Tell: (011): 488-4558
Fax: (011): 488-3786
14 February 2018

Mrs. Simangele Shongwe-Nxumalo
Department of Nursing Education
Faculty of Health Sciences
University of Witwatersrand
NHRD REF: GP_201711_041

Dear. Mrs Simangele Shongwe-Nxumalo

RE: **"The Use of Herbal Medicine in Chronic Haemodialysis Patients and Influencing Gactors in an Academic Hospital in Gauteng"**

Permission is granted for you to conduct the above recruitment activities as described in your request provided:

1. Charlotte Maxeke Johannesburg Academic hospital will not in anyway incur or inherit costs as a result of the said study.
2. Your study shall not disrupt services at the study sites.
3. Strict confidentiality shall be observed at all times.
4. Informed consent shall be solicited from patients participating in your study.

Please liaise with the Head of Department and Unit Manager or Sister in Charge to agree on the dates and time that would suit all parties.

Kindly forward this office with the results of your study on completion of the research.

Supported / ~~not supported~~

Ms. M.M Pule
Nursing Director
Date: 2018/03/14

Approved / not approved

Ms. G. Bogoshi
Chief Executive Officer
14.03.2018

APPENDIX 3: PERMISSION LETTER (NEPHROLOGY DEPARTMENT)

FACULTY OF HEALTH SCIENCES

DEPARTMENT OF INTERNAL MEDICINE

7 York Road Parktown, Johannesburg, 2193,
South Africa

Telephone +27114883621

Fax +274884799

Division of Nephrology, Charlotte Maxeke
Johannesburg Academic Hospital

22/03/2018

Re: Mrs Simangele Shongwe-Nxumalo

Regarding the study entitled "The Use of Herbal Medication in Chronic Haemodialysis Patients and Influencing Factors in an Academic Hospital in Gauteng"

I hereby give my permission to conduct the study from the Division of Nephrology.

Yours sincerely

Prof Graham Paget MBBCh (Wits) FCP (SA) Cert. Neph (SA) MMed (Wits)

Head-Division of Nephrology at the University of the Witwatersrand

APPENDIX 4: PARTICIPANT INFORMATION SHEET

The Use of Herbal Medicine in Chronic Haemodialysis Patients and the Influencing Factors

Good day, my name is Simangele Shongwe-Nxumalo, currently registered as a student at the University of Witwatersrand, Department of Nursing Education for the MSc in Nursing degree. I am inviting you to kindly participate in the study. In this study herbal medicine use is the use of plants and plant products for the maintenance of health and prevention or treatment of illness. The purpose of the study is to explore the use and the factors influencing the use of herbal medicine in haemodialysis in chronic haemodialysis patients in an academic hospital in Gauteng.

The study will follow the semi structured format with open ended questions about the use of herbal medicine, the reasons for its use, the influencing factors and the health education received and needed. The results from the study will assist in understanding the factors influencing the use of herbal medicine and inform health care providers on the health education needs of chronic haemodialysis patients. Should you consent to participate; you will be invited to participate in a face to face interview which should take approximately 45 minutes. This interview will take place in a quiet room with a door to ensure privacy and confidentiality.

I would like to ask your permission to record the interview. This will ensure that accounts are captured accurately. This will be done at a time that is convenient to you to ensure that haemodialysis is not interrupted. Names and personal information will not be used or disclosed throughout the study. Neither benefit nor harm will be derived from the study, your participation is voluntary and you may withdraw at any time if you wish so without any negative consequences. There is no reimbursement for participation in study since it will be conducted during the time you are waiting for your dialysis session to begin. Data collected from this study will be stored for two years if the study is published but if it not data will be stored in a locked cupboard for five years.

Thank you for taking time to read this information sheet. Please do not hesitate to contact me should you require any further information regarding your participation in the study. You can contact me on 061 243 1707. My Supervisors details are: Mrs D.R. Maboko, 072 686 1926. Should you require any additional information kindly contact:

Human Research Ethics Committee (Medical) Administrative Officer: Mr Rhulani Mkansi

Tel: 011 717 1234 /2656 /2700 and on E-mail: Rhulani.Mkansi@wits.ac.za or HREC-Medical.Research Office@wits.ac.za

Yours Sincerely

Simangele Shongwe- Nxumalo

APPENDIX 5: CONSENT FOR INTERVIEW

The Use of Herbal Medicine in Chronic Haemodialysis Patients and the Influencing Factors

I_____ agree to take part in the study with the above named title. I understand the information about my participation in the study as outlined by the information sheet. I agree to be interviewed by the researcher.

I also understand the following:

a. My participation is voluntary
b. I can withdraw my participation at any time
c. My participation is confidential
d. None of my identifying information will be published by the researcher

I am aware that I can contact the researcher at any time with any queries related to the study.

Informants Signature_____

Date _____

APPENDIX 6: CONSENT FOR AUDIO RECORDING OF INTERVIEW

The Use of Herbal Medicine in Chronic Haemodialysis Patients and the Influencing Factors

I_____ hereby give my consent to have the interview recorded for the study with the above named title. I have been informed of the purpose of audio-recording the interview.

Informant's Signature_____

Date_____

APPENDIX 7: INTERVIEW GUIDE

The Use of Herbal Medicine in Chronic Haemodialysis Patients and the Influencing Factors

Demographic Data

Gender……..…Age……Race……Ethnicity……..……

Language…… Duration on haemodialysis……..…..

ESRD secondary to…….……...…..

Medications……

……

……..……

Interview Questions

Presence/Absence of Herbal Medicine Use

- What does herbal medicine mean to you?
- What are your views on herbal medicine?
  Probes: Why is it so?
  How common is this in patients on haemodialysis?
- What are your thoughts on the use of herbal medicine by patients on haemodialysis?
  Probes: Why do you think this is so?
- Have you ever considered using herbal medicine?

Probes: What influenced your decision to use/not to use herbal medicine?

- Are you currently using any herbal medicine?

Common Herbal Medicines

- What do you think are the common herbal medicines that may be used by patients on haemodialysis?
  Probe: Where would one obtain these medicines?

Factors influencing Herbal Medicine Use

- Why do you think patients on haemodialysis use herbal medicines?

Health Education Needs

- What do you want to know regarding the use of herbal medicine whilst on haemodialysis?

APPENDIX 8: PARTICIPANT INTERVIEW

Interview 7

Researcher: Tell me about what you know about herbal medicine.

CHP 7:Herbal medicine are all these things from traditional doctors and also the one I see on TV because nowadays you can see traditional medicine on TV.

Researcher: Can you please explain more about what herbal medicine is

CHP 7: I mean it is the plants which can be mixed and a person can drink it or sometimes you put it on your skin depending on what you need the herbal medicine for.

Researcher: What are your views on herbal medicine?

CHP 7: Herbal medicine is good because it can get rid of a lot of things like if you're sick or you have bad luck you can have some herbal medicine to help you.

Researcher: Alright, have you ever used any herbal medicine?

CHP 7: Yes, I have used herbal medicine before. At home we used herbal remedies for almost everything in life. My grandfather was a traditional doctor and he was making a living by healing people with herbs that he got from the veld and mountain. Even us when we were unwell we would be given some herbs, sometimes mixed or not. And we would get better from the illness.

Researcher: Ok

CHP 7: The traditional medicines or the herbs as you call them are very helpful and I think they are not poison because you get them from nature and you can cook them or dry them and use them as required by your illness.

Researcher: So are you using any herbal medicine now?

CHP 7: Yes I am using an herbal concoction made by my cousin to help keep my blood clean and keep me strong and healthy.

Researcher: Please tell me more about the herbal medicine

CHP 7: No, no this is a family secret I can't tell you what it is.

Researcher: Ok tell me how it is, you drink it or you chew, what form is it in?

CHP 7: It looks like a tea and I drink it every morning after breakfast, sometimes when I forget to drink it I can feel the difference. I feel tired and I don't want to do much, even my spirit feels down.

Researcher: So please help me to understand how this medicine helps you in this health condition?

CHP 7: This medicine helps to give me strength and cleans my blood, even my blood pressure is ok now. You know with this disease you feel tired and as a man there is no way you cannot be strong. A man must be strong. I can walk on my own, even the garden at home is in good condition because I have the strength to work on it.

Researcher: Tell me about the importance of the kidney in your body?

CHP 7: The doctor told me that the work of the kidney is to take out water and waste from the body so now that the kidneys are not working well the machine is now doing the work of the kidneys.

Researcher: Do you think it is common for patients on haemodialysis to be using herbal medicine?

CHP 7: It is possible that there are people who are using but you can't say for sure. I think people are afraid to be open about it.

Researcher: Why do you think patients on haemodialysis use herbal medicine?

CHP 7: You see there are small things that are not cured by the machine so you need different medicines to get better. Sometimes one will feel tired and may need help with that.

Researcher: Have you ever discussed your herbal medicine use with your health care provider?

CHP 7: No way, we are not allowed to use anything other than the machine and their tablets.

Researcher: Why have you not discussed it?

CHP 7: In the beginning I had a few times when I was having problems and the sister scolded me and told the doctors. They came to me and said if I continue my kidneys will swell until they burst and I will die. They said there are many people who need the machine. I stopped the herbal medicine I was using then and listened to them.

Researcher: Then what happened?

CHP 7: I started feeling better and things were ok for some time. But late last year I started feeling tired all the time and that made me feel down. So I went to my cousin and we sat down and we discussed my condition. And my cousin's medicine is working. I am better now.

Researcher: So where does your cousin get his herbs that he uses for your medicine?

CHP 7: Various places sometimes he buys what he can't find from the mountain but he always makes it according to who the medicine is for.

Researcher: I see. If there were opportunities for discussion would that make things better?

CHP 7: I think when someone doesn't know how something works there is always fear. Lack of knowledge has closed off a lot of things.

Researcher: What do you mean?

CHP 7: Take for example you, you are asking me questions because you want to know, other people like you don't even want to know. They just tell you what to do and that's it. There a many ways that one can get sick and there are also many ways a person can get treated.

Researcher: So what do you think should be done?

CHP 7: There must be a way that a person can use what is helpful to him as an individual. I think our healthcare should know different ways of treating us, traditional ways are there and they are working. We are different people there must be a way that we can be included too.

Researcher: Let me see if I understand you well. You are saying that health care providers must be taught about the availability of herbal medicine and how it can help patients?

CHP 7: Yes maybe if they have training from people who know these things.

Researcher: Is there anything you'd like to add before we wrap up?

CHP 7: As people there is a lot that exists but we don't know about it, we need to open up our minds and our eyes or we will miss a lot of things.

Researcher: In what way can we open our minds?

CHP 7: By learning about things, you're learning right. Other people can also learn if you teach them.

Researcher: Thank you so much for your time.

APPENDIX 9: LETTER OF CONFIRMATION OF EDITING

Rachel Makoni
Educational Psychologist
BA Honours (UNISA) Psychology
M.Ed Psychology (Wits)

PS 0132586 Practice number: 0761931 E-mail: raeray2013@gmail.com

7 Charmaine Avenue

President Ridge

Johannesburg, Gauteng 2194

South Africa

25 March 2019

To whom it may concern

RE: EDITING OF MASTERS RESEARCH

This is to confirm that the research for Simangele Shongwe-Nxumalo titled 'The use of herbal medicine in chronic haemodialysis patients and influencing factors in an academic hospital in Gauteng' was edited on 22 February 2019.

Please do not hesitate to contact me for any further details.

Kind regards

Rachel Makoni