



**EXPLORATION OF FACTORS INFLUENCING NURSES' PERFORMANCE IN THE
CARE OF HEMODIALYSIS PATIENTS AT SELECTED NEPHROLOGY UNITS IN
RWANDA**

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Master of Science in Nursing/ Nephrology

2017



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RWANDA**

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A dissertation submitted in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN NURSING/ NEPHROLOGY

In the College of Medicine and Health Sciences

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July 2017

DECLARATION

I declare that this Dissertation contains my own work except where specifically acknowledged.

Marie Jeanne TUYISENGE

Signature:

Date: June, 12th, 2017

DEDICATION

I dedicate this study to my parents, NKUNDABAGENZI Laurient and NYIRANSABIMANA Anastasie and to my beloved husband NKINAMUBANZI André Moses for their unconditional love and support.

ACKNOWLEDGEMENTS

Firstly, I would like to thank the almighty God for his love, protection and all blessings He gives me since my existence.

My acknowledgment is particularly extended to the government of Rwanda through the Ministry of Health and the University of Rwanda for funding my studies.

I would like to express my special gratitude to my supervisors Professor Adejumo Oluyinka and Mrs. Providence UMUZIGA for their assistance during the development of this thesis project. I again acknowledge the work of Dr.Chironda Geldine for any kind of support she provided with me during this research project.

Special thanks go to my beloved husband NKINAMUBANZI André Moses for his love, care, encouragement and all kind of support he provides with me. Great appreciation to my beloved mother, brother, and sisters for their love, financial and moral support throughout my education.

Special thanks go to my classmates for collaboration, support, and courage they gave me during the time we spent together.

Blessings to you all!

Marie Jeanne TUYISENGE

ABSTRACT

Introduction: Hemodialysis is the commonest and successful treatment method of renal diseases that requires high technology, needles, skills and knowledge of providers. The procedure runs the risk of associated errors and issues of harm to patients. Nurses play major role in the delivery of this treatment by providing all pre, inter and post hemodialysis nursing care. Therefore, nurses need to understand all aspects of such technology, have the hands-on skills, be highly knowledgeable and have enough expertise to be able to meet patients' needs.

Aim: The aim of the study was to explore factors influencing nurse's performance in the care of hemodialysis patients in selected nephrology units in Rwanda.

Method: A qualitative survey design was used involving twelve registered nurses from UTHK, UTHB, KFH and KDC Hemodialysis centers. A purposive sampling strategy was used. Data were collected through face to face interview and were audio recorded. Six steps of thematic analysis approach namely familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report were followed to analyze collected data.

Results: Two main themes emerged from the study. The first entitled "Facilitating factors of nurse's performance" had six subthemes namely the continuous professional developments that nurses received, good interpersonal relationship among staff, personal factors, good working environment, receiving feedbacks on nurse performance and effective leadership and management. The second theme was "barriers to the performance of nurses" made of six subthemes namely the personal related barriers, poor working conditions, organizational barriers, poor resources, poor collaboration within staff and patient-related barriers.

Conclusion: The findings obtained from this study revealed a sufficient number of facilitating factors and barriers to the performance of nurses in hemodialysis settings in Rwanda. Strategies should be put in place to address to identify barriers to enhance nurse performance and patients care and sustainability of facilitating factors in nursing practice, especially in HD units.

OPERATIONAL DEFINITIONS OF KEY TERMS PERTINENT TO THE STUDY

Performance: Refers to the actual conduct of activities to meet responsibilities according to standards. It shows activities done and how well they are done (Awases, 2013). In this study, performance refers to the ability of the nurses to provide care to patients under hemodialysis treatment including but not limited to admitting patients in HD settings, performing pre dialysis patient's assessment, connecting the patients on hemodialysis machines, monitoring and recording the patient's status while on HD session, disconnecting patients and post dialysis assessment.

Nurses: Are defined as health care professionals who focus on the care of individuals, families and communities so that they may accomplish, preserve or receive better optimal health and quality of life from conception to death (Ahida Saleem and Sayej, 2015). In the context of the study, these are registered nurses, possessing at least six months working experience in hemodialysis settings providing care to HD patients in these settings.

Hemodialysis: Is one of the treatments options for permanent kidney failure patients which is used to restore the three major roles of the kidneys namely wastes removal from the blood, electrolytes balance and excess fluid removal from the blood (Curtis, Rushto and Roshto, 2011). In this study; HD refers to the technique by which a patient diagnosed with permanent kidney damage is treated with to save his/her life. The patient is placed on hemodialysis machine to filter his/her blood, removing wastes from the body and reduces excess fluid buildup.

Hemodialysis patients: Patients who are diagnosed with permanent renal failure and are treated with Hemodialysis to maintain their lives.

LIST OF SYMBOLS AND ABBREVIATIONS

AVF: Arteriovenous –Fistula

AVG: Arteriovenous -Graft

BP: Blood Pressure

BUN: Blood urea nitrogen

CBHI: Community-Based Health Insurance

CKD: Chronic Kidney Disease

CV: Cardiovascular

ESRD: End-stage Renal Disease

GDP: Gross Domestic Product

GFR: Glomerular filtration rate

HBM: Health Belief Model

HD: Hemodialysis

HP: Hemodialysis patients

KDC: Kimihurura Dialysis Centre

KFH: King Faysal Hospital

PD: Peritoneal dialysis

RDHS: Rwanda Demographic Health Survey

RRT: Renal Replacement Therapy

UTHB: University Teaching Hospital of Butare

UTHK: University Teaching Hospital of Kigali

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CHAPTER ONE. INTRODUCTION

This chapter is composed of the study background, the problem statement, the aim, the objectives of the study, the research questions, the significance of the study, operational definitions of key terms pertinent to the study and subdivision of the study illustrating the main parts of the project.

1.1. BACKGROUND OF THE STUDY

Chronic Kidney Disease is becoming a main health problem worldwide, particularly in low and middle-income countries with a noticeable burden in Sub-Saharan Africa. This condition is linked with elevated prevalence of its risk factors like type 2 diabetes, hypertension, and HIV, its cost of treatment, the associated cardiovascular morbidity and mortality and the fact that it affects younger age groups which compromise the economy of affected individuals and their countries at large (Wachukwu *et al.*, 2015). The progression of this disease lead to End Stage Renal Disease (ESRD), a condition in which there is permanent decline in an individual's kidney function which is deadly in case of lack of dialysis or transplantation. The estimated glomerular filtration rate, in this case, is less than 15 mL per minute per 1.73 m² body surface area (Abbasi, Chertow and Hall, 2010).

Patients treated with hemodialysis (HD) receive nursing care and it was found that the quality of hemodialysis treatment and the responsibilities of Hemodialysis nurses by providing good quality care to Hemodialysis patients (HP) determine the quality of life of those patients (Issa and Kadium, 2015). This role of nurses demonstrates the magnitude of those nurses to better perform care to these patients so as to assist them to achieve good health and wellbeing during the course of their disease.

According to Rolim *et al* (2015); there is a global increase of people in need for hemodialysis treatment but they do not all have access to treatment. Rolim *et al* (2015) have reported around 7% of the global population who are treated with renal replacement therapy every year; however; about 10.0% can afford hemodialysis treatment because of socioeconomic limitations (Okunola and Olaitan, 2016, p 492). This limited accessibility may lead to increased morbidity-mortality of this condition among the population with limited financial resources.

The treatment options for CKD condition at the stage of renal failure include kidney transplant which involves the donation of a living kidney to a deceased kidney associated with immunosuppressant's medications. There is also Home Peritoneal Dialysis, Home Hemodialysis and center based hemodialysis consisting of cleaning the patient's blood through an artificial filter either at home or in centers and a non-dialysis supportive care through provision of palliative care in the community (Tim, 2015; Rolimet *et al.*, 2015). The focus of this study is on in-center hemodialysis treatment because HD and peritoneal dialysis are the only treatment methods carried out in Rwanda, HD being the most treatment of choice associated with technical complexity which is delivered by nurses. The latter method is infrequently done in Rwanda, nurses provide care to patients under peritoneal dialysis at the beginning and later on patients are taught to do this procedure on their own at their homes.

Hemodialysis is the commonest and successful treatment method of renal diseases Borzou *et al* (2014); Mottahedian *et al* (2009). Globally, at the end of 2013, around 3, 200,000 ESRD patients were treated and around 2,522,000 of these patients were receiving Hemodialysis or peritoneal dialysis whereas about 678,000 persons were living with renal transplant (Fresenius Medical care, 2013, p 4). The process of this treatment method requires high technology, equipment, machines, needles, skills and knowledge of providers. Therefore; nurses need to understand all aspects of such technology, have the hands-on skills, be highly knowledgeable and have enough expertise to be able to meet patients' needs (Bennett, 2011).

Globally, HD is the most used treatment option representing 2, 250, 500 of HD patients which represent 88 % of all dialysis patients (Fresenius Medical care, 2013, p 4). In the USA, around 75% ESRD patients are on hemodialysis treatment (Degrassi *et al.*, 2015). Hemodialysis is a costly treatment option of around \$155 per one session and the patients must undergo three sessions weekly. This makes HD unaffordable in many SSA countries. For Example, in Nigeria, a total of 225 patients were treated with five years period, 63.3% of the only CKD patients had less than a total of 5 sessions of HD, and the majority of patients in this study sought for alternate sources for treatment like spiritual homes and native traditional practitioners and this often resulted in poor outcomes (Okunola *et al.*, 2013, p 7).

In Kenya, there are 400 HD patients with 12 .5 per million population (ppm), in Nigeria, 200 HD patients with 1.3 pmp, in South Africa, prevalence of HD is 6125 with 125 pmp, in Soudan prevalence of HD is 500 with 12 .8 pmp, in Uganda the prevalence of HD is 25 with 1.2 pmp, in Zambia the prevalence of HD is 25 with 2 pmp , in Zimbabwe, the prevalence of HD is 100 with 8.7 pmp, in Rwanda the prevalence of HD is 12 with 1.2 pmp(Naicker, 2013, p.163). In the context of Rwanda, information from some dialysis units managers in November 2016 show that there were 13 HD patients at UTHK, 7 patients at Gisenyi, 16 at Kimihurura dialysis unit, 37 at KFH. These numbers could change due to shifting of patients from centers to centers, changing from hemodialysis to kidney transplant or peritoneal dialysis methods,CKD-related deaths and non-adherence due to financial limitations.

It is known that Hemodialysis is a complicated practice which runs the risk of associated errors and issues of harm to patients. It requires the performance of many steps starting by the set up of the dialyzer and other equipment,the provisionof the right treatment and dose, accessing the blood flow by needling an arteriovenous fistula or opening a central line, connecting dialysis lines and monitoring the patient for complications and hemodynamic stability.Therefore; all of these steps should be done cautiously to prevent any harm to patients (Bray and Metcalfe, 2015).

In addition to this, hemodialysis center is a completely technical and specialized field that requires nurses to possess expertise, to be precise in their work, to have adequate information of the patient, of the dialysis treatment and hemodialysis complications (Borzou *et al.*, 2014) which interfere with the quality of lives of patients Ozkan and Ulusoy (2011) leading to elevated morbidity and mortality (Weiner *et al.*, 2014). Thus, Hemodialysis nurses should be able to early recognize, do screenings of patients and correct hemodialysis-associated complications for CKD patients on HD treatment to achieve long and good quality life of those patients.

Hemodialysis treatment is a nursing responsibility. Nurses have to prepare the patient for hemodialysis session by recording all vital signs of the patients as well as performing the assessment of the general condition of the patient and the assessment of the hemodialysis access site, they do evaluation of different lab results Leslee (2011), they administer prescribed medications Laura, Wenjun & Norris (2013) and they work with difficult dialysis techniques, the hemodialysis machine and they have to implement the infection

control measures (Karkar *et al.*, 2015). Nurses again play a major role in the delivery of the hemodialysis treatment and they provide all pre, intra and post hemodialysis nursing care (Minn, 2014). They monitor the patient, the dialyzer, and the dialyzate, they provide support and assess the patient for potential hemodialysis complications and they deliver education to HP (Serwan and Bakey, 2014).

Considering the role of nurses in HD settings, the complexity of HD settings and the possible errors and complications that may result from this treatment, nurses should perform well so as to provide CKD patients with high-quality care improve their health condition and prolong their survival. To perform well on this HD procedure, different facilitating factors should be put in place but also possible barriers to the performance of these nurses should be eliminated or minimized by all possible means.

In Rwanda, there is limited recorded data regarding the profile of Hemodialysis nurses, HD patients and HD settings in general. Information from different hemodialysis unit managers demonstrates that in Rwanda they are five hemodialysis centers available in both public and private health institutions. There are only two specialists trained physicians in Nephrology across Rwanda without any nurse specialist trained nephrology. Nurses in HD units received short-term training ranging from two weeks to one year. The present study is initiated to explore the factors and barriers that influence the performance of nurses in the care of CKD patients undergoing hemodialysis treatment.

1.2. PROBLEM STATEMENT

The hemodialysis (HD) setting is extremely technical requiring nurses to master hemodialysis equipment and their handling so that they provide safe, efficient and effective care to Hemodialysis patients (Bronwyn, Ann, and Clint, 2015). In addition, HD treatment is associated with many complications some of which are life-threatening, others alter the quality of life of patients which implies the need for early recognition and treatment to save patient's lives Ozkan and Ulusoy (2011) and these HD complications are associated with increased morbidity and mortality among HD patients (Weiner *et al.*, 2014).

Studies done in clinical settings have reported different facilitating factors of the performance of nurses. Examples include good interpersonal relations among staff, monitoring of performance of nurses through regular performance appraisals, clear

mission, goals and objectives to be achieved and the fact that nurses' work contributes to the objectives of the organization among others (Negussie, 2010&Awases, 2013).On the other hand; literature reported the barriers which might lead to poor performance of nurses. Examples include but not limited to the shortage of staff, lack of nurse's involvement in decision making, lack of regular feedback on the performance of nurses, poor remuneration, lack of trainings, lack of motivation, overworking hours, lack of appreciation from employers, lack of management efforts to improve the working conditions , poor working conditions, inadequate equipment , the fact that nurses are not cautioned for poor performance and lack of rewards for good performance (Kamati, 2014).

However; during clinical training; the researcher identified poor performance and differences between the various hemodialysis settings on how nurses perform care to CKD patients on hemodialysis treatment. Factors associated with such differences which could have influenced nurse's performance remain largely unexplored. There are no known studies in Rwandan hemodialysis units on the exploration of factors that influence the performance of nurses as well as the barriers to performance of these nurses. Therefore; this requires being explored through a research study.

1.3. THE AIM OF THE STUDY

The aim of the study was to explore factors influencing nurse's performance in the care of hemodialysis patients in selected nephrology units in Rwanda.

1.4 .OBJECTIVES OF THE STUDY

1. To elicit the facilitating factors of nurses 'performance in the care of hemodialysis patients in selected Rwandan Hemodialysis units.
2. To identify the barriers to performance of nurses in the care of hemodialysis patients in selected hemodialysis units in Rwanda.

1.5. RESEARCH QUESTIONS

- 1 .What are the facilitating factors to the performance of nurses in the care of HD patients in selected Rwandan Hemodialysis units?
2. What are the identified barriers to the performance of nurses in the care of Hemodialysis patients in selected hemodialysis units in Rwanda?

1.6. SIGNIFICANCE OF THE STUDY

From the literature review, there are no known studies done in Rwanda regarding the factors influencing nurses' performance in the care of CKD patients under hemodialysis treatment and this motivated the researcher to carry out the present study.

Significance to nursing practice: This study will provide the opportunity to review the factors and barriers that influence the performance of nurses in the care of CKD patients in selected hemodialysis units across Rwanda. From the study findings, recommendations will be made accordingly so that appropriate changes are to implemented enhance and strengthen nurse performance. This study has a significant long-term impact on the provision of quality care to CKD patients under hemodialysis treatment, reduction of morbidity and mortality of HD patients and improved quality of life of these patients.

The significance of nursing education: Findings of the present study will serve as the base to use to improve the existing nursing curriculum so that trained nurses are highly knowledgeable, well skilled and competent enough to care for patients in need for hemodialysis treatment.

In nursing administration: Through the recommendations made to different policy makers, HD settings involved in the study and teaching institutions, the findings of this study will serve as references to establish guidelines relating to hemodialysis treatment.

Nursing research: Knowledge about factors influencing the performance of nurse in the care of hemodialysis patients will bring insight or solutions which could benefit health policy makers, program managers and health professionals especially nurses. The findings of this study will serve as the starting point for future nursing research in general and research regarding nurses' performance in hemodialysis treatment in particular.

1.7. SUBDIVISION OF THE STUDY

This research project is subdivided into the following main chapters: The introduction, the literature review, the methodology, presentation of results, the discussions of results finally the conclusion and recommendations of the study.

CONCLUSION TO CHAPTER ONE

Chronic Kidney Disease is becoming a global health problem, particularly in low and middle-income countries with a noticeable burden in Sub Saharan Africa and is associated with increased morbidity and mortality. Its progression lead to End Stage Renal Disease; a condition which is deadly requiring dialysis or transplantation to preserve patient's lives. Hemodialysis is the commonest and successful treatment method of renal diseases and this treatment requires high technology, equipment, the hands-on skills and knowledge of providers in addition to enough expertise to be able to meet the needs of Hemodialysis patients. There are no known studies in Rwandan hemodialysis units on the exploration of factors influencing the performance of nurses in hemodialysis settings; thus this requires being explored through a research study.

CHAPTER TWO.LITERATURE REVIEW

2.0 INTRODUCTION

This chapter shows the literature search strategies used, it describes the views of different authors about hemodialysis treatment, the performance of nurses in hemodialysis units, the factors that affect nurses' performance and the adapted health belief model used as the conceptual framework. Finally, the identified gaps in the literature about the topic under study are shown in this chapter.

2.1. LITERATURE SEARCH STRATEGIES

The literature review was done using different search strategies, many of the databases searches were accessed including Google, Google Scholar: 2005-2017, Pubmed, Hinari, PMC, American Nephrology Nurses Association website and published books. The search terms included Chronic Kidney Disease, End Stage Renal Failure, performance, Nurses, hemodialysis, Health Belief Model, Factors influencing the performance of nurses, Global, Africa and Rwanda.

2.2. THEORETICAL LITERATURE

2.2.1. Introduction to Hemodialysis treatment option

Hemodialysis is one of available treatment options for advanced renal failure that is used to maintain kidney functions. It is an invasive treatment under nurses responsibilities which requires nurses technical abilities (Luz, Partida, and Hernández, 2015). This treatment is used to restore the three major roles of the kidneys which are wastes removal from the blood, electrolytes balance and excess fluid removal from the blood (Curtis, Rushto and Roshto, 2011).

Hemodialysis procedure involves different principles. Firstly; diffusion which is the principle by which blood passes through the semi-permeable membrane of the dialyzer and the dialysate during dialysis and molecules pass from high to less concentrated area. Thus, the wastes pass from the blood of the patients across the membrane and into the dialysate. A low level of electrolytes in the dialysate facilitate the removal of excess

electrolytes and prevents the level of electrolytes in blood from becoming critically low (Curtis, Rushto and Roshto, 2011).

Secondly; osmosis consisting of the movement of solvent passing through a semi-permeable membrane from a lower solute concentrated area to a higher solute concentrated area. During hemodialysis, the osmotic forces will regulate how water moves from one body compartment to another. The concentration of solute in blood is reduced by diffusion, there is an increased concentration of solutes in tissues and cells then water is pulled out of the blood (Curtis, Rushto and Roshto, 2011).

Thirdly; ultrafiltration which is the movement of fluid through a filter resulting from hydraulic pressure, as the fluid moves from an elevated pressure to a reduced pressure. There are hydraulic pressure differences generated by the dialysis machine and the increased pressure in the blood compared to the dialysate. This pressure then pushes extra fluid out of blood in the dialysate (Curtis, Rushto and Roshto, 2011).

Lastly; convection referring to the transfer of heat and solutes by physical circulation or movement of parts of a liquid or gas. During dialysis, the convective transport leads to solvent being drag across a semi-permeable membrane, it will move along with the smaller solutes and this movement highly depends on the size of solute and the size of the membrane pores. The smaller the solutes, the easier they pass (Curtis, Rushto and Roshto, 2011).

2.2.2. Hemodialysis vascular access

Arteriovenous Fistula (AVF) is one of HD access which consists of the creation of anastomosis which connects a vein to an artery and it includes radio-cephalic, brachial cephalic and brachiobasilic fistulas. Arteriovenous Graft (AVG) is another HD access which refers to the use of a synthetic prosthetic segment used to join an artery and a vein to facilitate hemodialysis use. They may be positioned in the upper and lower arms and in thighs (Timmy *et al.*, 2014). Finally, there are Central Venous catheters (CVCs) which are preferred in case of urgent hemodialysis inserted in the jugular vein, in the femoral vein and in the subclavian vein (Domenico *et al.*, 2014). All of these HD accesses are associated with complications that nurses should prevent and properly manage in case they happen.

2.2.3 .Complications of Hemodialysis

Hemodialysis treatment is associated with many complications some of which are life-threatening and others alter with the quality of life of HD patients. Therefore, they must be early recognized and treated to save lives (Ozkan and Ulusoy, 2011). Complications are categorized as related to hemodialysis equipment such as air embolism, hypersensitivity reactions like Type A and B reactions, exposition to bacteria which cause infection to patients, like hypotension, cramps, and hemolysis. There is again cardiac arrhythmia tetany, pneumothorax, air emboli , injury of the thoracic tract , nerve injury in the neck or thorax , deficiency in maturation for AVF and AVG leading to venous stenosis and thrombosis, low dialysis flow and inadequate dialysis and the access related infections (Ozkan and Ulusoy, 2011).

Other HD complications are cardiovascularly related such as intradialytic hypotension (Ozkan and Ulusoy, 2011) , hypertension, arrhythmias, pericarditis, sudden cardiac death and myocardial infarction. Neurological complications include dialysis disequilibrium syndrome characterized by fatigue, slight headache, nausea, vomiting, blurred vision and muscle cramps and it can cause arrhythmia, confusion, tremor, seizure and coma. There are again headaches, cerebral vascular accident, stroke and tremors (Ozkan and Ulusoy, 2011).

Another class of hemodialysis complications is made of electrolytes complications including hyperkalemia and hypokalemia which can all lead to cardiac arrhythmia, hypocalcemia, hypercalcemia, hyponatremia and death. The last category is hematological complications which include hemolysis, neutropenia. Finally, nausea, vomiting, itching and muscle cramps, thrombocytopenia and bleeding related to heparin drug are other hemodialysis complications (Ozkan and Ulusoy, 2011).

2.2.4. The performance of nurses in the care of patients on hemodialysis treatment

For hemodialysis patients, nurses provide care which is well performed so as to preserve patient wellness and quality of life. The latter are necessary for the success of hemodialysis treatment (Luz, Partida and Hernández, 2015). Nurses have the responsibility to prepare the patient for hemodialysis session. Prior hemodialysis, the

weight of the patient is measured and documented so as to know the quantity of fluid to be removed during hemodialysis to return to the patient's dry weight. Nurses take and record the blood pressure, the body temperature, the heart rate and breathing patterns as well as the performance of the assessment of the general condition of the patient (Leslee, 2011).

In addition, nurses do the assessment of the access site depending on the type of access in place. For patients with AVG and AVF, nurses assess for local hemorrhage, assesses the site for blood flow, local signs of infection and report findings. Nurses assess the catheter site for drainage and redness around the skin and respect the sterile technique (Leslee, 2011). Then; they evaluate different lab results such as sodium, potassium, phosphorus, Blood urea nitrogen, creatinine, blood cell count, hemoglobin and hematocrit levels and they revise patients' medications (Leslee, 2011). Nurses perform a physical assessment of the patient, administer prescribed medications, they manage psychological and physical problems of the patient, they give health education and care planning and coordination (Laura, Wenjun and Norris, 2013). They again work with difficult dialysis techniques, the hemodialysis machine and they implement the infection control measures (Karkar *et al.*, 2015).

During hemodialysis treatment, nurses perform direct care to patients. They prepare the hemodialysis machine, prepare patients, connect machine to patient, provide care during hemodialysis like regular monitoring of blood pressure, control and prevention of possible complications, provision of immediate post dialysis care like checking and recording of patient's weight, blood pressure and hemorrhage among others and they give support to patients and their families for their self-care as well as closely monitoring of potential complications during dialysis (Mottahedian *et al.*, 2009). In Post-dialysis care, nurses control blood pressure, they monitor for any hemorrhage, measure patients' weight, record findings, assess access site and they administer ordered medications (Martchev, 2008).

In addition, nurses perform HD access care by maintaining the integrity of access, prevention of access failure and reduction of complications related to access. They also teach patients about the care of their access, Suhair (2013), perform post dialysis Blood pressure measurements to rule out intradialytic hypotension (Causland *et al.*, 2012; Hopkins and Bakris, 2009). Another responsibility of nurses in hemodialysis units is to

perform infection prevention practices while performing HD care to ensure patients safety because HD patients are at high risk of developing infections like Hepatitis B and C viruses, human immunodeficiency virus and tuberculosis which are transmitted from different sources in hemodialysis settings (Karkar, Bouhaha and Dammang, 2014; Davis *et al*, 2016).

2.3. EMPIRICAL LITTERATURE.

2.3.1. Factors influencing the performance of nurses

The performance of nurses is essential to accomplish healthcare in a constant and successful manner Mehmet (2013) and such performance has an important role on the safety of patients (Kamati, 2014). In Namibia in a study on factors affecting the performance of professional nurses, good interpersonal relations encompassing communication and teamwork was reported among factors influencing the performance of nurses (Awases, 2013). In Ethiopia; monitoring of the performance of nurses through regular performance appraisal, clear mission, goals, and objectives to be achieved and the fact that nurses' work contributed to the objectives of the organization were among reported factors associated with the performance of nurses (Negussie, 2010).

In Rwanda, in a study on factors affecting the performance of nurses and midwives in post partum care; it was reported that receiving training in postpartum management and having been trained on the use of clinical tools were associated with good performance of staff (Uwaliraye, 2011). However, in the context of hemodialysis settings in Rwanda, little is known about the factors influencing the performance of nurses caring for CKD patients on hemodialysis treatment. In Iran; Nobahar and Tamadon (2016) showed the need for nurses to receive special training regarding the use of dialysis devices, possessing hemodialysis skills and be capable to manage associated complications were reported facilitators of care delivery to HD patients.

In a quantitative study done in Namibia on 284 registered nurses who worked at the referral and training Hospital, with the aim of evaluation of factors influencing the performance of registered nurses; scarcity staffing (87%) , lack of nurse's involvement in decision making (70%) , lack of regular feedback on the performance of nurses (77%) ,

poor remuneration (45%) , lack of trainings (32%) , lack of motivation (45%) , caring for frustrated patients, overworking hours, lack of appreciation from superiors, employees not treated equally at the work place (38%) , lack of management efforts to improve the working conditions (56%) , poor working conditions (43%) , trainings level of nurses to perform duties appropriately (25%) , inadequate equipment (70%), the fact that nurses are not cautioned for poor performance (18%) and lack of rewards for good performance (92%) were reported factors leading to poor performance of nurses (Kamati, 2014) .

Some of these findings were also found in Palestine in a quantitative descriptive cross-sectional exploratory study done on 185 nurses aiming at assessing selected organizational factors affecting the performance of nurses. In this study , increased workload (79.2%) , lack of manager support on nurses 'performance (72.2%) and lack of enough resources in terms of materials , equipment , space and personnel (69.8%) were reported to affect nurse's performance leading to poor performance (Ahida and Sayej, 2015) .

In Ethiopia in a quantitative explorative descriptive PhD study conducted in 2010 on 230 practicing nurses and 40 nurse managers from selected public hospitals and health centers on analysis of factors that positively and negatively affect the performance of nurses with the use of a self-administered questionnaire, findings showed that deficiencies in knowledge and skills of nurses , lack of remuneration, feeling unhappy of the work benefits, lack of recognition and lack of staff development in terms of continuous education , need for trainings , shortage of nurses in wards , no support (counseling) of nurses at work , poor work space and environment such as lack of sufficient materials in wards, lack of trainings for nurse managers , lack of enough competencies for nurses in managerial position to lead subordinates nurses and lack of work experience among nurses were all found to affect the performance of nurses in the way they cared for patients (Negussie, 2010).

In South Africa, a quantitative study was done on 85 nurses working in 180 clinics of the Makhuduthamaga Sub-district on factors influencing the performance of nurses. Lack of non-monetary incentives, lack of trainings related to work, lack of fair promotions and salary adjustment, feeling unsecured at work , shortage of nurses , shortage of some resources, lack of availability of organizational policies, no staff supervision, no performance reviews, no availability of the nurses job descriptions , lack of involvement

of clinic committees in issues affecting the clinic were reported factors leading to poor performance of those nurses (Makunyane, 2012) .

In the context of hemodialysis units, few studies were done. In Australia and New Zealand, a study done on 417 nurses with the aim of exploring factors contributing to satisfaction with the work environment, job satisfaction and burnout among hemodialysis nurses; the work environment was generally positively perceived by nurses and a reasonable level of satisfaction was found. Nevertheless; stress and burnout were rated high among nurses and yet this increased level of burnout was found to be associated with poor patient outcomes, raised sick leaves, reduced organizational commitment, migration of nurses leaving their work environment and the profession. On the other hand, when there is good working environment there is job satisfaction among nurses, organizational commitment, staff retention and enhanced patient outcomes (Bronwyn, Ann, and Clint, 2015). This has a great impact on the performance of nurses because a stressed nurse cannot perform well.

In Iran, emotional exhaustion was high among dialysis nurses at 44.5% and this was correlated with a decrease in satisfaction with nursing care among patients (Shorofi *et al.*, 2016). In Greece, a study on assessing hemodialysis nurse' work environment and its correlation with patient's outcomes, it was found a non-favorable hemodialysis workplace which was associated with patient's hypotension, venous needle disconnection and patient fall (Prezerakos et al, 2015). This show that unfavorable workplace negatively affect the way nurses perform care to patients.

2.4. CRITICAL REVIEW AND RESEARCH GAP IDENTIFICATION

The researcher has identified several studies done in different countries in regard to factors that influence the performance of nurses in work places in general. Some of the factors positively influenced the performance of nurses whereas others negatively affected their performance leading to poor patient outcomes. The majority of accessed studies are non-experimental studies. A sufficient number of reviewed studies were done in Africa; the context of which is similar to Rwanda where the current study is being done.

However; gaps were identified from the literature. There were no studies found regarding the factors affecting the performance of nurses in hemodialysis settings. In addition; the majority of reviewed literature are quantitative studies which might have limited a deep exploration of the phenomenon under study. In Rwanda; no literature about this topic was found due to the assumption that there is the new introduction of nephrology nursing program and hemodialysis services in the country which has limited researches in that specific field. All of these gaps inform the need to explore factors influencing the performance of nurses in the care of hemodialysis patients.

2.5. CONCEPTUAL FRAMEWORK

The adapted Health Belief Model (HBM) is used as a conceptual framework. It was developed by four psychologists in the 1950s as a method of studying the reasons which prohibited persons from the use of free programs that would avoid diseases. The model helps to recognize the behaviors that people develop under the similar condition by following or not following certain guidelines or requirements Efstathiou *et al* (2011) and it highlights the correlation between belief and behaviors (Shirzadi, Doshmangir, and Jafarabadi, 2015).

The health belief model is made of components including perceived susceptibility which means the viewpoint of persons regarding the chance of contracting a disease perceived severity relating to the thoughts about getting a severe disease or the resulting clinical consequences like disability, death and pain and potential social consequences such as affected work, social relationship, and family life if the disease is not treated. They are also perceived benefits explained as the beliefs about taking possible actions to minimize the severity of the disease and perceived barriers described as the negative beliefs about a particular health action. They are again cues to action defined as a variety of timely formulations of the health belief model including the concept which generate actions (Shirzadi, Doshmangir, and Jafarabadi, 2015).

The model has also the component of modifying variables or factors like education level age, sex, past experiences, skill among others which are personal characteristics that influence persons' perceptions. Lastly, a component of Self-Efficacy referring to someone's belief in his/her capability to do something (Jones, 2003). Four of the HBM components were adapted to fit the objectives of the study as below described:

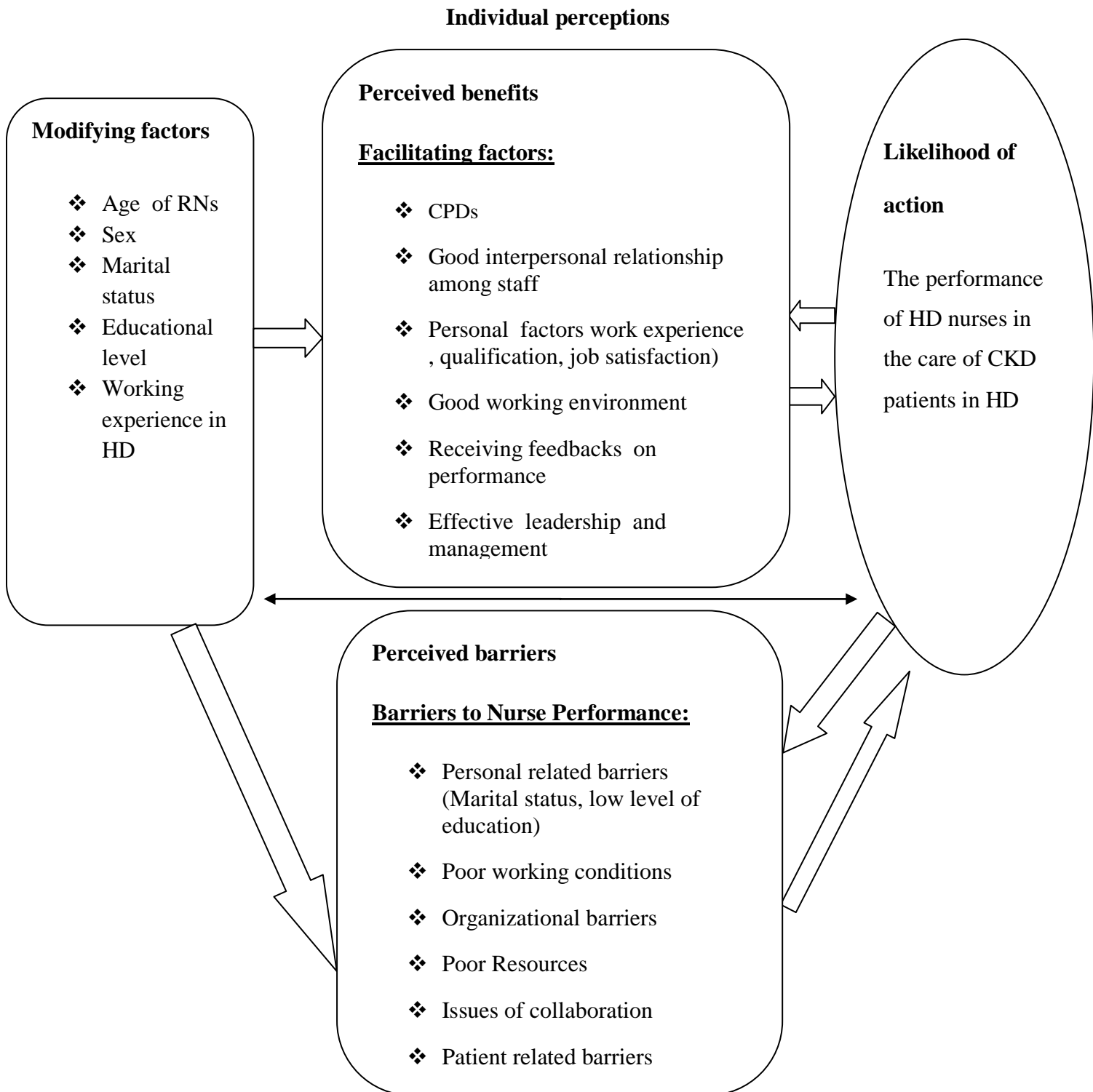


Figure 1. Adapted diagram of the Health Belief Model

Source: Stretcher, V., & Rosenstock I.M. (1997). The Health Belief Model. In Glanz K., Lewis F.M., & Rimer B.K.(Eds.). Health Behavior and Health Education: Theory, Research, and Practice. San Francisco:Jossey-Bass. Reprinted with permission

1 .Modifying factors: In this study, working experience of nurses, their qualifications, and job satisfaction was identified as facilitating factors to their performance in HD units. On the other hand; for some nurses, their marital status like having sick children and low level of education were reported as the barriers to their performance in hemodialysis. Therefore identified factors and barriers influenced the performance of Hemodialysis nurses and vice versa.

2. Perceived benefits: Nurses in HD settings have described several factors that facilitate their performance while caring for HD patients. The list is made of Continuous Professional Developments (CPDs) that nurses received, the good interpersonal relationship among staff, personal factors (made of work experience, qualification, job satisfaction), good working environment, receiving feedbacks on nurse performance and effective leadership and management. Thus, HD nurses perform well in case those factors are present.

3. Perceived barriers: These are barriers to the performance of nurses from nurses perspectives which are personal related barriers (made of marital status, low level of education), poor working conditions, organizational barriers, poor resources (human and materials), poor collaboration among nurses and other staff and patient-related barriers which mainly was made of poverty among some HD patients which limited their affordability to HD treatment. Some patients care givers also interfered with how nurses deliver care to patients. Therefore those barriers have a great impact on nurse's performance.

4. Likelihood of action:This is the performance of nurses in the care of HD patients which is influenced by identified facilitating factors, the barriers and the identified demographic data of nurses.

CONCLUSION TO CHAPTER TWO

Hemodialysis treatment is a procedure under nurses responsibilities which is used to restore the three major roles of the kidneys namely wastes removal from the blood,

electrolytes balance and excess fluid removal from the blood. This treatment option involves different principles which are diffusion, osmosis, ultrafiltration and convection and it is associated with several complications. Some of those complications are life-threatening; others alter with the quality of life of HD patients requiring early recognition and treatment to save patient's lives. Nurses are responsible for providing all nursing care related to hemodialysis before, during and after each dialysis session. Therefore; they should possess hands on skills, be knowledgeable and perform well on their duties so as to meet the needs of patients and save their lives. Different studies were done on exploration of factors influencing the performance of nurses and they reported several factors. However; in the context of hemodialysis settings, little is documented of the similar studies, thus; the need for the present study.

CHAPTER THREE.METHODOLOGY

3.0. INTRODUCTION

Research methodology refers to the steps, procedures and strategies for gathering and analyzing data in a study (Polit and Beck, 2013). This chapter presents the research approach, research design, research setting, the study population, study sample, sampling strategy, data collection methods and procedures used, data analysis, the ethical considerations, data management, data dissemination and trustworthiness of the study.

3.1. RESEARCH APPROACH

The research approach of the present study was a qualitative study, an approach which consists of a set of interpretative material practices that make the world visible, study things in their normal settings, attempting to make sense of the phenomenon in terms of the meaning people give it as it is constructed in their context (Creswell, 2012). This approach enabled the researcher to deeply explore from nurses in hemodialysis units the factors and the barriers associated with their performance in the care of Hemodialysis patients.

3.2. RESEARCH DESIGN

The research design is defined as the whole plan of how the researcher obtains answers to the research question. It specifies how often the data are to be collected, the type of comparison to be made and describes where the study will be done (Denise and Cheryl, 2012). The study design was a qualitative survey which refers to the study of different variations among given people with a purpose of finding out a range of some subject of importance among known individuals and it creates important differences among those people (Jansen, 2010). This design was used because it provided opportunity to get different opinions, views and perspectives of different hemodialysis nurses from different dialysis units in Rwanda of what they face as factors influencing their performance while caring for hemodialysis patients.

3.3. RESEARCH SETTING

The study was conducted in four selected hemodialysis units across Rwanda to achieve variations of nurses's views about the phenomenon being studied. Two public hemodialysis units and two private hemodialysis centers were involved. University Teaching Hospital of Kigali (UTHK) is a public health institution situated in Kigali city, Nyarugenge district, Nyarugenge sector. The hemodialysis unit at UTHK has eight dialysis machines and four nurses who provide care to CKD patients under hemodialysis treatment.

UTHB is another public health institution located in Southern province, Huye district in Ngoma sector. There are five dialysis machines and three nurses in dialysis unit. The private hemodialysis units were King Faysal Hospital (KFH) located in Gasabo district in Kacyiru sector, having nine dialysis machines with six nursing staff. Finally, Kimihurura Dialysis Centre (KDC) located in Kigali city, Gasabo district in Kimihurura sector which possess eight dialysis machines and five nurses.

3.5. STUDY POPULATION

A study population is defined as a set of individuals who have similar characteristics (Creswell, 2012). It was made of all registered nurses who work in hemodialysis units in Rwanda totaling twenty one registered nurses. The target population is defined as a group of individuals who share some common characteristics that the investigator can be able to identify and conduct a study (Creswell, 2012). In the present study, the target population was made of registered nurses who are based in UTHK ,UTHB , KFH and KDC Hemodialysis units totaling eighteen nurses.

Accessible population refers to cases taken from the target population that are available for the researcher to participate in the study (Polit and Beck, 2013) and it was made of twelve nurses who were available during datacollection and voluntarily accepted to participate.

3.5.1. The inclusion criteria

To be a registered nurse who perform care to HD patients in UTHK, UTHB, KFH and KDC settings, who were available at the time of data collection, possessing a working

experience of at least six months in HD units and who voluntarily accepted to participate in the study.

3.5.2. The exclusion criteria

Registered nurses in four selected hemodialysis units who had less than six months of working experience.

3.6. STUDY SAMPLE

Sample size

The sample size was based on the information needs and was guided by the data saturation which is the act of obtaining data from study participants up to the time that there is no new information regarding the phenomenon under study and redundancy was achieved (Polit and Beck, 2013). Therefore, the sample size was made of twelve nurses. Data saturation depended on the nature and extent to which diversity of responses was achieved by interviewing nurses from four hemodialysis units.

The researcher started the interview with two nurses from UTHK, two nurses from KFH and two nurses from UTHB. After interviewing them, data saturation was not achieved and the interview process continued with two nurses from KFH because the rest of nurses from UTHB and UTHK were not available, the researcher tried to make appointments with them, unfortunately, we did not manage to meet. In addition to this, the researcher was still waiting for permission to do data collection from KDC.

After getting permission from KDC, the researcher interviewed two nurses from that setting and new information was still coming up. So, she again did two interviews and data saturation was achieved at the twelfth nurse. Therefore, with this data collection procedure, the researcher got various ideas of nurses from those different settings.

3.7. SAMPLING STRATEGY

Sampling is defined as the method of obtaining cases that represent the whole study population so as to make inferences to the population (Polit and Beck, 2013). A purposive sampling strategy was used which is based on the researcher knowledge and judgment about the study participants; who are supposed to be knowledgeable about the subject

under study or those who have particular characteristics that benefited the study (Polit and Beck, 2013).

Thus, only registered nurses in hemodialysis units who were considered to have enough information about the study through their HD working experience were identified and they reflected on and shared their perspectives regarding the factors influencing their performance. Unit managers from selected hemodialysis units were contacted by the researcher through phone calls and physical contacts and they helped the researcher to identify registered nurses possessing a working experience of at least six months and a total of sixteen participants were found. The other four did not participate due to reasons like non-respect of appointments and sickness. However, those who participated provided valuable information that answered the research questions.

3.8. DATA COLLECTION METHODS AND PROCEDURES USED

3.8.1. Data Collection Instrument

A semi-structured interview guide was prepared by the researcher and was used to carry out the interview. It consists of establishing topics or open-ended questions which should be addressed on during interview by ensuring that all questions area were covered (Polit and Beck, 2013). The instrument was composed of two sections. Section one was made of biographical data of nurses in HD unit which included their age,sex, marital status, educational level of nurses, their working experience as nurses and their working experiences in hemodialysis units.

Section two was made of open questions about the factors that influence the performance of nurses, as well as the barriers to their performance in HD units, each of these questions had probing questions. Open-ended questions were asked to facilitate nurses to fully express their feelings about the phenomenon being studied. The interview guide was piloted to two nurses from different Hemodialysis centers to validate its content. After this, the guide was adapted with minor changes to avoid misunderstanding of the questions.

3.8.2 .Data collection procedure

This study was conducted from February, 13th to April,13th, 2017 in UTHK,UTHB,KFH, and KDC. The researcher contacted the unit managers through phone calls to avail nurses for interview and the unit managers connected nurses with the researcher by sharing their contacts. The researcher then made appointments with scheduled nurses for interview.

On arrival at the site, the nurse in charge introduced the researcher to scheduled nurses for interview and asked for their cooperation during the study. Then the researcher asked for a quiet room to use for interview. Prior interview, the researcher introduced myself to every nurse. I provided detailed information about the study, I gave the consent form and the study information sheet which were read and signed by participants (See Appendices 1, 2, 3,& 4).They were asked for the possibility of tape recording the interview and they agreed to be recorded.

Therefore a face to face interview was conducted following an interview guide using English (see Appendix 8). It involved one nurse at time and lasted between forty-five minutes to one hour. Two interviews were done in French and back translated in English. The researcher did the data collection as well as data analysis, every audiotape was immediately copied to the researcher passworded computer to prevent unauthorized access.

A simple observation method was used to complement data obtained through interview. During observation, in two different DH units, the researcher saw those units congested with a large number of patients; some were waiting for others to end with their treatment sessions. There were few nurses caring for those patients. I again saw nurses did not have time for break and they worked over working hours.

3.9. DATA ANALYSIS

Qualitative dataanalysis is a procedure of fitting data collectively, to make visible what is abstract, connecting and attributing consequences to antecedents andit follows many tasks to facilitate the management of collected narrative data (Denise and Cheryl, 2012). A thematic analysis approach was used consisting of interpreting data and provides a way of systematically identifying patterns among provided data so that there is a clear

explanation of the phenomenon (Smith, Joanna and Firth, 2011). Data were analyzed based on six phases of thematic analysis according to Braun & Clarke, 2006. The phases are familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report and they are described in the following chapter of presentation of findings (Clarke and Braun, 2013).

3.10. ETHICS CONSIDERATION

Prior conducting this study, the researcher got ethics approvals from the University of Rwanda Institute Review Board and from UTHK, KDC, KFH and UTHB and the following ethical concerns were considered:

Right of self-determination and privacy: prior participation, nurses were provided with all study information and they took their own decision of participation. They were informed of their rights to withdrawal from the study without any penalty and the interview was conducted in a quiet and safe room.

Informed consent and voluntary participation: Information sheet and the informed consent were given to nurses before interview; they read and asked for more clarifications, finally each nurse voluntarily signed for his /her participation.

Protection from harm: Firstly, participants were explained that the study does not involve any harm to them and that participation is freely based on obtaining informed consent from them. They were reassured of safety and confidentiality of information they gave

Confidentiality: The researcher used anonymous interview guide, informed consent and the information sheet. She used numbers for hemodialysis units which were only known by the researcher. The recorded tapes and transcripts were kept anonymous in the researcher personal computer protected with a password and the study findings were reported anonymously.

3.11. DATA MANAGEMENT

After the presentation of the final dissertation, audiotaped interviews will be kept for 5 years in a Gmail account accessible to the researcher only. Data on hard copies like field notes will be kept safely for one year. A copy of the final thesis will be submitted to the library of UR, CMHS for future readers and researchers in the related field of study.

3.12. DATA DISSEMINATION

Copies of the final report and the feedbacks will be given to involved health institutions and the researcher expects the publication of this thesis in journals to disseminate results regionally and globally.

3.13. TRUSTWORTHINESS OF THE STUDY

In order to achieve the quality of the study, four criteria for establishing the trustworthiness described by Guba and Lincoln were used namely credibility, transferability, dependability and confirmability (Vicent, 2015).

Credibility: Refers to the confidence in the truth of study produced (Vicent, 2015). Data triangulation was used by mixing face to face interviews with observation of non-verbal responses during interviews and observation of nurses doing HD procedure. At the end of every interview, I sought for the participants' feedback to verify if recorded data were true.

Transferability: Refers to which extent the study findings can be generalized or transferred to the whole population (Vicent, 2015). A purposive sampling procedure was used by involving registered nurses from different HD units to seek their opinions about the phenomenon under study. Since the study involved four different hemodialysis units out of five which were available at the time being; the present study findings can be generalized to all HD settings in Rwanda.

Dependability: Refers to the stability of the study findings over time (Vicent, 2015). To achieve this, an audit trial was allowed to check how data were collected, recorded and analyzed. Every step was discussed with my two supervisors separately and changes were made according to the agreements we made. In addition to this, peer examination was used; the researcher discussed the research process and results with an independent doctor possessing expertise in qualitative research.

Confirmability: It refers to which extent study findings can be confirmed by other researchers (Vicent, 2015). There was provision of an audit trial highlighting every step of data analysis and data triangulation made of interviews and observations.

CONCLUSION TO CHAPTER THREE

This study was a qualitative survey in nature which targeted registered nurses from University Teaching Hospital of Kigali, University Teaching Hospital of Butare, King Faysal Hospital and Kimihurura Dialysis Centre totaling eighteen nurses .Twelve nurses from four hemodialysis units across Rwanda were involved in the study and this enabled the researcher to achieve variations of nurses's views about the phenomenon being studied. A purposive sampling strategy was used to select registered nurses to participate in the study and a face to face individual interview was conducted to collect data. After data collection, data analysis was done following six steps of thematic analysis by Braun & Clarke, 2006. Ethical principles were considered during this study and the trustworthiness of the study was ensured by considering credibility, transferability, dependability and confirmability criteria.

CHAPTER 4. RESULTS PRESENTATION AND INTERPRETATION

4.0. INTRODUCTION

This chapter describes and illustrates the findings generated from this study which was aimed at exploring factors influencing nurses' performance in the care of hemodialysis patients. This chapter covers the socio- demographic information of participants, the data analysis used following the thematic approach as well as the description and interpretation of the two major themes which emerged from this study supported by participants 'extracts.

4.1. SOCIO-DEMOGRAPHIC INFORMATION OF PARTICIPANTS

The study involved twelve registered nurses from UTHK, UTHB, KFH and KDC hemodialysis units. Their socio- demographics are described in the following table:

Table 1: Socio- demographic information of participants

| Participants characteristics | Age | Sex | Marital status | Educational level | Years of experience as a nurse | Work experience in HD |
|-------------------------------------|------------|------------|-----------------------|--------------------------|---------------------------------------|------------------------------|
| Participants | | | | | | |
| P1 | 30-39 | Female | Married | A0 in nursing | 8 | 3 |
| P 2 | 30-39 | Female | Married | A 1 in nursing | 8 | 6 |
| P 3 | 30-39 | Female | Married | A 1 in nursing | 11 | 3 |
| P 4 | 30-39 | Male | Married | A 1 in nursing | 7 | 6 |
| P 5 | 30-39 | Female | Single | A 1 in nursing | 15 | 6 |
| P 6 | 30-39 | Female | Married | A 1 in nursing | 10 | 6 |

| | | | | | | |
|------|-------|--------|---------|----------------|----|-----------|
| P 7 | 40-49 | Female | Married | A 1 in nursing | 16 | 1 |
| P 8 | 20-29 | Female | Married | A0 in Nursing | 3 | 1,6months |
| P 9 | 20-29 | Female | Married | A0 in Nursing | 7 | 2 |
| P 10 | 20-29 | Female | Married | A1 in nursing | 3 | 8 months |
| P11 | 20-29 | Male | Single | A0 in Nursing | 2 | 2 |
| P 12 | 30-39 | Male | Married | A1 in nursing | 15 | 8,6months |

In the table above, it is shown that four HD nurses over twelve nurses involved in the study were between 20 -29 years of age. Seven registered nurses were between 30-39 years of age while one nurse was between 40-49 years old. A total of nine nurses were female while three were male. Again many of them were married (10) while (2) were still single. The majority of nurses in the study had advanced diplomas in Nursing (8) while the rest of them (4) hold bachelor's degree in nursing. The working experience of these nurses in hemodialysis ranged from 8 months to 7 years and their work experience as nurses varied from 2 to 16 years.

4.2. DATA ANALYSIS APPROACH

During this study, six steps of thematic analysis approach were followed to analyze recorded data (Clarke and Braun, 2013) .Every step is below described:

Step 1 Familiarization with data: The researcher played and listened to the audiotaped records frequently, she actively read and reread transcribed and the field notes data searching for meanings and patterns so as to get the understanding and meanings of the whole content of what participants stated. She also did a verbatim transcription of twelve interviews. Accuracy was achieved by checking the transcripts back compared to the original audio records (Clarke and Braun, 2013).

Step 2. Generating initial codes: Coding was done manually and it was based on the study research questions. The researcher coded data by the use of abbreviations and written notes were put on the texts to be analyzed. Two different colors were used to specify possible patterns (Clarke and Braun, 2013). The yellow color stood for FF code which meant facilitating factors while the green color stood for B code which meant Barriers. In addition to this, these codes could have numbers because they were many.

Step 3. Searching for themes: After forming initial codes and collecting them together, the researcher sorted different codes into possible themes and assembled all important coded data extracts into the identified themes. To achieve this, the researcher used a word table mentioning the name of the codes, the sub-theme and the main theme. Some initial codes were put together to form the main theme, others formed sub-themes while few others were discarded (Clarke and Braun, 2013). A total of two main themes namely “Facilitating factors and Barriers to nurse performance emerged from the study.

Step 4. Reviewing themes: The researcher refined the formed themes; she read back all collected data for every theme to check if they form a logical pattern, seeing which data fit in created themes. The researcher reworked on some themes, created new ones and discarded others from the analysis which did not have supportive data from the data set. The researcher reread the full data set to find out if the themes work to the data set and the researcher coded possible additional data that were missed in previous stages (Clarke and Braun, 2013).

5. Defining and naming themes: The researcher performed a complete analysis of every theme and finally a total of two main themes were found, each of them possessing six sub-themes. The themes and their emerging subthemes are shown in the following figure 1 and figure 2.

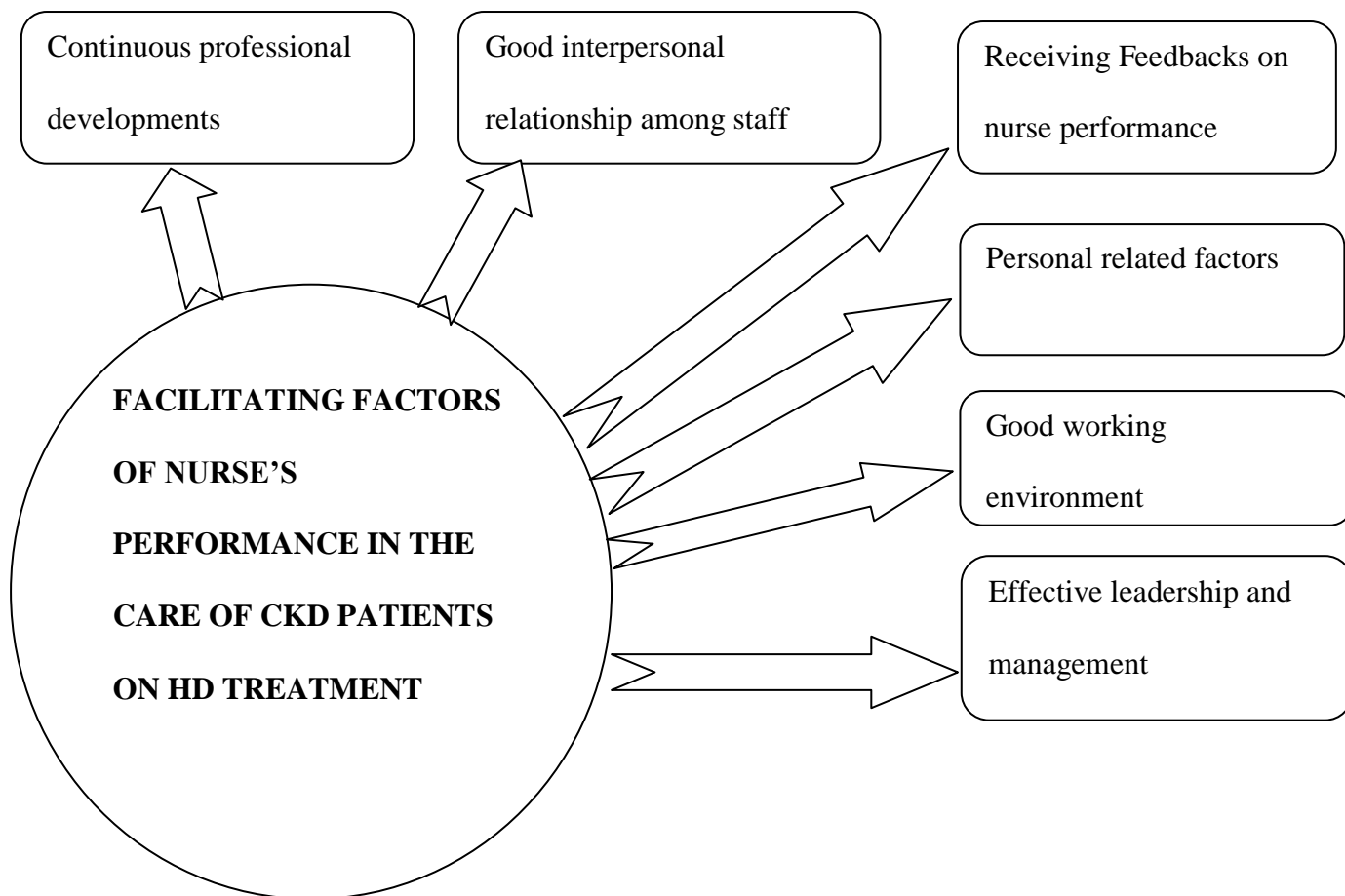


Figure 2: A thematic map of the first main theme and its subtheme

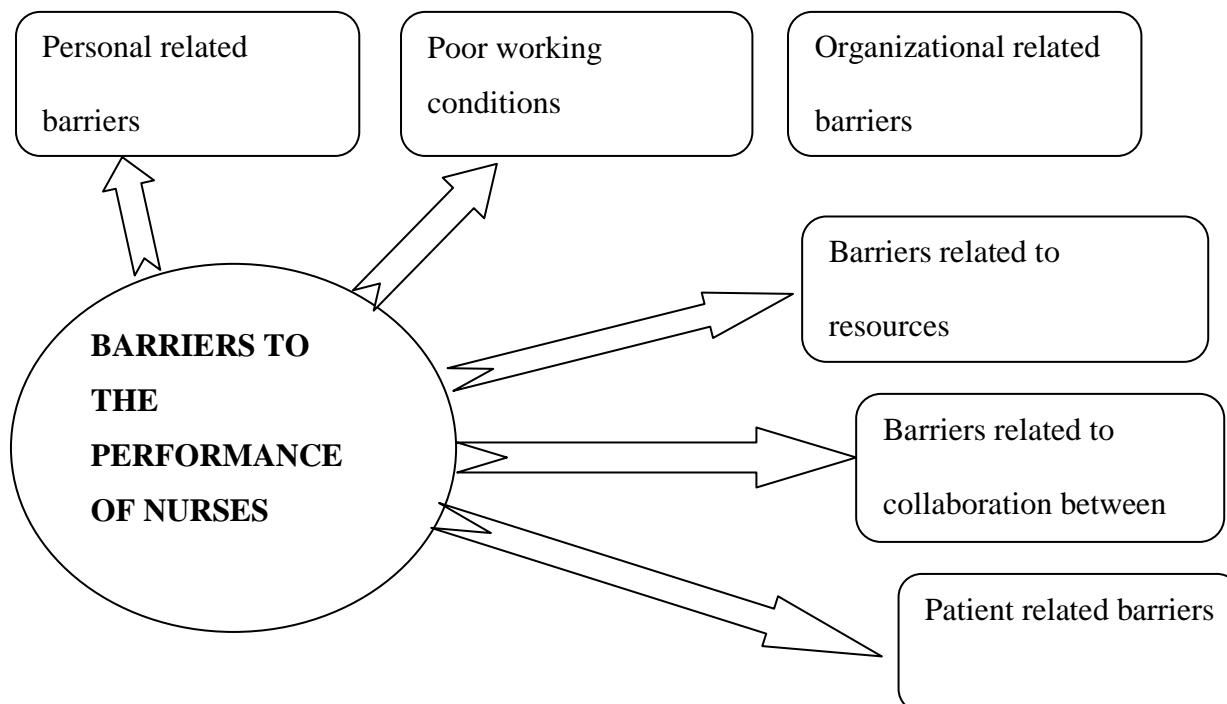


Figure 3: A thematic map of the second main theme and its subthemes

Step 6. Producing the report: This is the last step of data analysis by thematic approach and it involves the write up of identified themes, their emerging themes supported by some participants extracts.

4.3. INTERRELATING AND DESCRIPTION OF THEMES

4.3.1 .FACILITATING FACTORS OF NURSE’S PERFORMANCE IN THE CARE OF CKD PATIENTS ON HEMODIALYSIS TREATMENT

From nurses’ views, their performance in the provision of care to CKD patients on HD treatment was positively influenced by several factors which are combined in six subthemes namely the continuous professional developments, good interpersonal relationship within staff, personal related factors, receiving feedbacks on nurse performance, good working environment and effective leadership and management.

4.3.1.1. Continuous professional developments

Almost all interviewed nurses in HD settings expressed that they received different work related trainings which mainly focused on practical aspects of Hemodialysis machines and those trainings assist them in their performance. One informant received a one year out of country training on HD whereas the rest of informants did in service short trainings trained by colleagues at the training site or by people from out of the country prior starting to work in HD or while at work. For example, when asked to describe factors that positively influence her performance in HD, an informant replied:

Uhhh! ok. Factors which had influenced my job primarily they gave us training, we did one training on connecting and disconnecting HD machines! Connecting patients who have fistulas. Then they do anastomosis for artery and venous, where we can pick the needle. That is a good factor influencing my job. ahh! P 01.

Informants again realized that attending professional conferences and having been trained on how to resuscitate a patient on HD treatment was a crucial factor that facilitated their performance for them to care for those patients. Some informants said:

You know a dialysis; hemodialysis patient might die in two seconds. You are not able to react well and the patient is going. I think what it has helped me most is the Basic Life Support (BLS) course we normally do every year. Every year we repeat the BLS course. That's one has helped me very much. P 202.

I had an opportunity to attend a conference and we have interacted with other people working in other hemodialysis centers, see challenges and other things they are facing and we have got some courses that have helped me in doing hemodialysis. P 203.

General comments from informants' records are that work related trainings were mostly important facilitating factors of their performance. However, from some informants' perspectives, received trainings are insufficient and they got them long time ago.

4.3.1.2 Good interpersonal relationship among staff

Majority of informants illustrated that good interpersonal relationship among staff was an important facilitating factor to their performance. They talked of the relationship towards each other, good communication practices and the communication facilities in place. They emphasized on a good team working which influence them on their performance because hemodialysis settings requires staff to work collaboratively so as to provide quality care to CKD patients on HD.

One informant said:

It is a team working only which is affecting my performance. If I have a problem I can call my colleague or physician and he can help me to resolve it. It is a team working which influencing me in this unit. P 201

Another informant realized that when there is a good team work, it facilitates knowledge exchange among staff and they learn from each other which facilitate the way they care for HD patients. One informant said:

It contributes in sense that like you know in this world, each one has its own way to catch things. I might be very good in like fistula insertion. Another person might be very good in resuscitation more than me. So when you connect together it helps. You know the thing you know you help me with, the thing I know I help you with. It performs. It makes you to another level. That's' what I think. P202.

Other informants have raised the importance of taking decisions together and they showed that it leads to positive patient's health outcome but also it brings the sense of belonging. Informant said:

Oh! Here in this unit, we make decisions as team. We sit together, discuss on cases and make shared decisions. This helps me to feel as I work in a team, it helps to be more prudent, not doing whatever I want, prevent from putting patients' lives in danger. P 02

Informants also showed the role of HD staff in sharing information on patient's condition which leads to proper management of HD patients. Informant said:

Staffing also help because when someone want to share, like some saying that patient has a problem, next time when he happens we know how to manage the problem he has. P203.

Other nurses have shown the importance of a good relationship among team members and how it positively influences on their performance on both practical and theoretical aspects. For example, an informant said:

We have good relationship with nurses even technicians,even engineer. If we have the problem with machine ;the engineer call everyone and say you see the problem was this and he shows, next time when you see you will know it was about this. And physician, our doctor if we have question we ask him if we have an issue we call him and he explain you very much. P 402.

Other informants emphasized on the role of a good relationship within staff saying that in case it is lacking, there is no mutual assistance which makes difficult to exchange knowledge and information, which might negatively impact the care to be provided to patients. Informant said:

If they don't have the relationship that mean everyone work alone. But we don't have the same competence, the same knowledge. We don't have also the same experience. That mean can affect if I don't know something but you know it that mean I can ask you to help me if we don't have the relationship you cannot help me. P 401

From nurses' perspectives; effective communication among team members facilitated their performance because they communicate well in their working settings and prevents them from doing mistakes during patient's care. One informant said:

We communicate well as a team in unit. If we are working in team and we communicate well, I think it is a factor which makes me to do my job without thinking of other thing which cancause me to do mistakes on my job. Communication it is also a factor which helps me to perform my job well. P201.

Availability of communications facilities in working areas was highlighted by other informants to facilitate information sharing, to look for help and this makes the work easy. One informant said:

The communication here is somehow easy because we are all in the user group. We communicate freely; the hospital pays our cell communications. Then it is easy to call anybody when it is to inform, when it is to seek for help, when we need him we call easily when we need something we miss, we easily call. It is easy. P 101

4.3.1.3. Personal related factors

Among interviewed nurses, a total of five informants have talked about the demographics made of nurses working experience in HD settings and their level of education and they stated that these influenced on their performance while caring for HD patients.

One informant said:

I have six years of experience. This helps me to perform well on my job. I know what I do and how to do it. This is very important for me. P02.

Another informant confirmed that her current qualification enables her to perform her duties as outlined in the job description saying that:

Yes, I think it is yes. Because they are things we have already learned before, even before working in this unit which facilitates us in the work. Then I think the qualification is very important it facilitates daily activities. P 101

4.3.1.4 Receiving feedbacks on nurse performance

A total of six nurses have highlighted that their performance is facilitated by the fact that they receive the feedbacks on their performance which enable them to maintain what is evaluated well and to enhance on identified weaknesses. Performance appraisals which are regularly done in most of health settings, feedbacks from supervisors during staff meetings and patient recognition of nurses' efforts are ways of feedbacks on performance from nurses perspective. For instance, informant said:

Every three months there is evaluation on our performance. I get the performance appraisal. When there is something to improve for my performance I do it according to the items stipulated on the appraisal and the marks I have. This is very important because I try my best to do well my job so that I get many marks. P 02

4.3.1.5. Good working environment

A sufficient number of informants highlighted that good working environment facilitates them to perform well. Resources availability (material and human resources), nurse motivation by their supervisors and others and good remuneration practices within their working settings characterized a good working environment from nurse's perspectives.

Informant was asked about the factors which make her doing HD nursing activities better she replied:

Factors are many but the first one is environment we are working in with equipment, having all the necessary items for doing dialysis and to care for patients on hemodialysis and motivation from supervisors or others which help us to feel well-doing hemodialysis and care of those patients who are chronic because sometimes it is difficult but as we are used to work with them we know how to deal with them. P 203

For some informants they said that there is sufficient number of nurses in their HD setting and this prevented stress and facilitated their performance:

Informant said: The staffing at this time is enough which makes the work easy. For example, we have 9 machines and on day duty we are 3 nurses. Each nurse cares for 3 patients. It does not cause stress to us. P 02

Good remuneration practices at the institutional level were appreciated by some few nurses. Some are motivated to perform well because their salary adjustment is based on their performance.

For example, one informant said:

They adjust salary based on performance. That means if you have the best salary also encourage you to perform well because they base on the performance. If you perform well they give a lot of money also encourages you to perform well to receive a lot of money. P 401

Good salary, payment of extra working hours and respect of indicated working hours by authorities also facilitate performance of some nurses. Informant said:

I think other thing we have, here in this hospital we work on indicated, indicated hours per week. If there is other extra hours they pay it. I think it is a factor which I have. P 201.

4.3.1.6. Effective leadership and management

Some nurses have revealed that their performance is facilitated by the way the management is done within their HD units emphasizing on the role of a team leader on the good work organization which help them to achieve the set care goals. Informant said:

We have a unit manager. If we have a team leader, I think it is one thing which helps us the unit to work on right ways because the team leader; the unit manager it is the head of nurses who work here in this unit and he can organize all activity for the day or week. If we don't have the unit manager I think it is a mixing of the job and we will not achieve on our objectives. P 201

Other nurses appreciated the importance of being given some leadership responsibilities in their HD unit and its good impact on their performance making them feeling responsible of the work, helps them to develop leadership skills and the hands-on as well as computer skills. An informant said:

For example, when I am the shift leader it helps me to feel responsible. I know how to make and send reports, I develop abilities to handle cases and I know how to use the computer because it is a must to send the report. "You gain much knowledge and competence. P 02

Availability of policies and procedures in working settings also facilitated nurse to perform well on their duties by preventing them to do mistakes while caring for patients. Some informants said:

Policies and procedures we do have them and they help because they prevent us to do errors or go beyond what is supposed to be done. So they help us and help us to perform well and do what is correct. P 203

In some HD settings, few nurses appreciated the structure of working shifts they have; saying that it allows them to take some days offs and they can plan for their activities.

Informant said:

I like the shifts here. You know, when I finish my shift and I know tomorrow I will have the day off, it helps me to do a plan of my activities. It is well organized here. P 02

Managerial support characterized by the willingness of authorities to resolve HD problems was stated by nurses as another facilitating factor to their performance saying that authorities positively respond to all requests that HD nurses made.

Informant said: Because it is a new service when we have some problem, be it materials or another one, we do report, then authorities have the good will to

resolve the problems we have. That's also among positively influencing factors. P 01

4.3.2. BARRIERS TO THE PERFORMANCE OF NURSES IN THE CARE OF CKD PATIENTS ON HEMODIALYSIS TREATMENT

A total of eleven nurses have expressed the barriers they face during their daily activities which impact their performance regarding caring for hemodialysis patients. Six subthemes namely personal related barriers, poor working conditions, organizational related barriers, barriers related to resources, barriers related to collaboration between nurses and other personnel and patient-related barriers emerged from this main theme.

4.3.2.1 Personal related barriers

One nurse among twelve nurses have raised the concern of her marital status and her role in the family as one of the barriers affecting her performance. She emphasized on the health status of her children and its impact on how she performs. One married informant said:

Me I am fine but sometimes if I have my daughter is sick. It means that the sickness of my daughter affects my competence for that day, but for the remaining days, I am fine. P 401.

The current level of education of nurses was rated as insufficient by two nurses and this limited their competency and it does not enable them to perform well on their duties.

One informant said:

We have not enough competencies because our service is new. Uhh? Another one, our diploma is general nursing; we have no specialty, no enough information about monitoring patients under machine, hemodialysis machine. P 01

4. 3.2 .2. Poor working conditions

A total of four nurses highlighted this subtheme. When nurses were describing it, they focused on the problem of insufficient nurses in hemodialysis settings, the schedule of their work, overworking hours associated by lack of break time and fatigability, a big number of patients in need for HD but also a stagnant career path and stagnant salary. For

instance, some nurses have stressed on the fact that they are few compared to the number of patients in need for HD care which affected also their performance by saying:

You see the number of patients comparing the number of nurses. If someone is tired you cannot say I am tired even if you are tired you are supposed to work. ya. That is also the challenge, the number of patients also affect us. P 401

Other nurses emphasized on the number of HD patients they have to take care of every day and they said that those patients are many. Of the barriers to his performance, a nurse gave a list of barriers and added:

Another factor is the number of patients we receive per day. We receive about six patients per day which are too many in numbers and it can also lead to me to perform my activity not very well as I can do it when I have few patients like four patients per day. P 201

Two nurses have also emphasized on inflexible working schedule which affected their performance and it was characterized by overworking hours, lack of breaking time for nurses and the schedule which doesn't allow them to take days off. All were associated with poor performance, fatigability and emotional distress. For example, one nurse said:

They are a lot of overworking here in hemodialysis. We work, we work, we don't know. We come to work at seven am it is well known but we never know when to go back home. We don't know because we are always ready to work until we never know when. Because sometimes we work from seven mornings till three am in the morning without going back home. It happened once, twice, more than three times and we returned back home without knowing who will come to do the day duty and all of those made us very tired. It caused us anger but we are used to them. P 101.

Stagnant career path, stagnant salary and lack of additional incentives were other barriers identified by nurses and said that it has a negative impact on their performance.

Informant said: It is negative. Because there is no other work promotions. About salary about life change we still work like usual even if we pass ten years of work without adding something on the salary or other thing which you can need as a person. It is not good. P 201

Investigator asked him if this affected him on his performance and he replied:

P: yes it can affect me. For these persons who have many years in job without getting any training, they can feel unhappy and they can perform badly the activity. P 201

4.3.2.3. Organizational related barriers

Some nurses have focused on the geographical location of some HD units, the nature of hospital regulations regarding affordability to HD treatment and the fact that HD units are neglected by leaders and all those barriers affected their performance.

For geographical location of some HD units; some informants expressed that HD setting were localized far away outside the hospital while others were situated far from Intensive care unit. This location makes difficult the movements from or to HD and has a negative impact on both nurse performance and patient's health outcome. Informants said:

We are very far from intensive care unit. When we have a very ill patient, patient who must go in ICU or a patient from ICU, then the mobilization is very difficult and when we need resuscitator or when we need to resuscitate someone, sometimes it takes time because they are far from us. P 101

Tight hospital regulation which causes moral distress among nurses was another barrier to their performance. Sometimes nurses are ready to care for patients but they are warned not to connect patients without payment of hemodialysis session. This affects nurses because they dealt with some patients with limited financial resources to afford HD. A nurse said:

Sometimes the patients have no money to pay but we have material, we have time, we have everything to do but patient have no money and we have obligation from our director telling that never, never, never put patient under machine without paying money. That's also is a problem for nurses. P01

Some nurses stated that HD units are neglected by authorities and this makes HD facilities, staff and their issues not well addressed to. For instance, when asked about the barrier they face in their daily activities a nurse replied:

eh! I think strong barrier is the system and condition in which we work Condition and system and what I can say is negligence of leaders .P 301

Investigator: can you give me an example of how this negligence shows up?

Participant: Negligence? I say negligence of leaders. I begin with Ministry of health; the Minister of Health had make negligence of hemodialysis units on the beginning until today. He did not make any research for to the daily activities and daily life of patients. It is a strong negligence to the dialysis unit. yea. P 301

4.3.2.4. Barriers related to resources

A total of six nurses over twelve interviewed nurses in this study have focused on the problem related to lack of skilled trained personnel in the field of hemodialysis. They identified themselves as having theoretical and practical gaps regarding hemodialysis and nephrology field in general, the lack of work-related trainings, human resources issues encompassing lack of nephrology doctors and competent technicians, lack of experts in hemodialysis in Rwandan context, lack of hemodialysis-related documentation , limited skills to provide emotional support and inadequate knowledge about management of patients with renal diseases .All of those barriers affected their performance.

In regard to lack of work related trainings, nurses said that they received short term trainings prior starting to work in HD settings, which they rated insufficient. Others said they got trained long time ago and expressed the need to get other trainings while others were not trained at all. When asked about the barriers he faces during daily working activities he replied:

Uuuuu! The factors. The first one is lack of training it is one factor which can lead to perform very bad on our activity. For example, here I think all nurses are not trained in hemodialysis unit. For me, I think that it is a barrier which can make to everyone to perform bad his responsibilities. P 201

Another identified barrier was about human resource issues. Some reported an insufficient number of nephrology doctors, others reported that they do not have any doctor and incompetent or no trained technicians were also reported .All affected the performance of nurses in a way that sometimes nurses are obliged to carry out responsibilities of doctors or technicians like repairing of HD machines and this interferes with nurses daily plan and their scope of practice which can negatively affect the outcome of patients receiving care. A nurse said:

We have few doctors like here we can have one doctor sometimes he goes to Gisenyi. When he is in Gisenyi I have emergency I call him then he told things

on phone. For me to take what he told me on phone to put it in practice is very difficult. What he told me normally are the doctor's activities, not nurses. So I am supposed to react as a doctor even if I am a nurse. That is the factor affecting us on our competence. The third thing is we are supposed to work like engineer. Sometimes I have like nine patients, I have like eight machines. The last one is like an emergency. When machines have the problem I am supposed to work like engineer but I don't have knowledge of how the machines work, how to replace it. So that is also the factor which affect us how we perform. If we have emergency, the machine doesn't work we are much stressed. P401

Other nurses have raised the issue of lack of experts in HD units in Rwandan context which affect their learning and knowledge sharing in the field of HD and they also emphasized on theoretical and practical gaps they have in hemodialysis.

You know in Rwanda for us we don't have the trainers, we don't have someone who have the experience in hemodialysis that sometimes, even if we have two years in hemodialysis, there is someone who have like thirty years. They know a lot of things than you. For us, we don't have the people who have the experience, the people who have better knowledge than us. Even if we know the theory but practically we don't have the practical knowledge. P 401

Another said:

I think we have gaps in theories then I would like to learn again theories but there is also about machines because there are machines we have here but there are others in other settings and if I know their functionalities it would be better. All of that would make me happy. P 101.

Again, nurses said that they have limited knowledge about management of renal failure patients on HD treatment and this might have a negative impact on patient outcome but also on nurse performance. A nurse said:

Knowledge about management of patients with renal diseases, it is not enough. We have problem, we have challenge. Yea. For example, if you put patient under machine, ok, We know I am going to remove this quantity. But after patient can have headaches, and so on. Apart from going into the machine, searching on google why this, nursing management, we don't have enough information. All of that are like arrangements we make. P01.

Others reported the barrier associated with inability for nurses to provide emotional support to renal failure patients, they try to do it but due to limited knowledge on how o

conduct a counseling session; they finally fail and do not assist patients properly. One said:

There are some patients they have like depression, also the family has depression. because we don't have enough knowledge on the work of psychiatrists also affect us. That is why sometimes we ask our doctor or our boss to bring like someone who have a lot of knowledge on counseling because sometimes we try to counsel them but in the middle, we fail. P 401

Nurses have also talked about lack of hemodialysis-related documentation, for that there are something related to HD they are not able to understand because they require to have documents. A nurse said:

The only problem I met is documentation regarding the maneuvers of routine activities because we have an old book of two thousands and ten. I think that it was expired and I think it would be better if we find another documentation which is updated. If I can say there is a documentation concerning the Gambro Machine and we utilize NIPRO Machines. I didn't found the documentation concerning the machines we use here. It's the only influence I have met. P 302.

Insufficient materials and few HD machines were also reported barriers to nurse performance. Nurses spend time waiting for materials from other wards and this affect the quality of service delivered to patients. A nurse said:

There are some materials we don't have and then, of course, it has an influence on our work .When we need this material and we don't have it, of course, we need to go ask for it in other services and it takes time and if sometimes there are cases that cannot wait. It can happen that a material we need we get it very late when we no longer need it. That's the problem and we hope that it will be arranged. P 101

Limited number of HD machines compared to the patients in need for HD treatment was another barrier. This cause fatigability among nurses because some patients have to wait for others to finish their HD sessions and finally some are connected later during the day. A nurse said:

For this center, you see like we have many patients in these days but the number of the machines is less than the number of patients. That sometimes affect us. Like if you are going to connect the patient around two or three pm o clock, that mean all the nurses are tired. That mean when someone is tired also the

performance goes down. So for us, we need like another number of dialysis machines. We are supposed to increase the number of the machines. P 401.

4.3.2.5. Barriers related to collaboration between nurses and other personnel

Some of interviewed nurses have raised some barriers that were classified as Poor collaboration from technicians, lack of information sharing because nurses were not involved in meetings and communication issues with other services and authorities. These were found to affect the performance of nurses because sometimes they don't know what is to be changed and implemented. For example, informant said:

Another problem is collaboration with technicians sometimes. I don't know. Sometimes when we don't work in good conditions with them because they have also their responsibilities in other services I don't know but the main problem it is when-when have informed them to close the water tank and then when we come back on work we don't find water to use for work. It makes us very nervous because we would like to work early so that we finish early, but when we arrive like that we are obliged to wait for sufficient water and all that will end up by going back home very late. P 101

Lack of information sharing and issues in communication with other services and authorities as other barriers affecting their performance because nurses are not informed of the decisions taken from meetings and this can impact the implementation of changes.

A nurse said:

If there is a meeting of nurse, held here in the hospital, they discussed, maybe they congratulate maybe those who accomplish their tasks well, maybe they give warnings or remarks. Then we don't know what is said there. There is no communication with us, I don't know how it is in other services, for us we arrive at work every morning, we occupy our unit, if there is a meeting somewhere we find the invitations but on the side of nurses there is no one who participate because we are in the unit. We are with our patients only. It is a problem which has an impact because if there is communication which we are concerned; we don't know, it's a problem. We don't know how authorities look at us, I don't know how to explain. It is a terrible thing. And you imagine if you are invited to attend a nursing meeting, maybe they are regulations, there is something to be changed in the service and you don't know that is a problem. P 302

4.3.2. 6. Patient-related barriers

Some interviewed nurses have emphasized on the barriers from patients side to affect their performance. They talked of poverty among HD patients, mind management from

next of kin of patients and some patients who developed resistance to adapt to new policies and procedures.

Limited resources for some HD patients were reported by some nurses because HD treatment is very expensive limiting its affordability for poor patients. Again, this treatment is associated with different complications limiting nurses to connect patients while they don't have some food or drinks to take prior, during or after the session. Therefore, sometimes nurses do not connect patients or they take risks to connect them. One nurse said:

Another one, some patients are very poor, they have no money to buy something to eat. It is very difficult to put patient under machine without eating and another problem; the hospital has no capacity for to give the food for patients. Problem also. 01

In addition to this, nurses reported what they called "Mind management from next of kin of patients in which the next of kin of patients want always to be with their patients in the HD settings and this is associated with many health risks like HD catheter infections among others. When they are told to stay out of the room they don't understand and this is difficult for nurses to manage. A nurse said:

If I say mind management, you know Africans we like to see our patients, we like to have a next of kin nearby the patients and then to tell those next of kin or patients guardians this is not allowed to enter in this unit, they are not directly understanding what you want to mean because you saw the Hemodialysis catheters it is open to the blood and then even in the air there is some bacteria circulating. If you say to those people they are not allowed to come they do not directly understand. They think that you are preventing them to see the patients. so I always face this and then to give some explanations to those people it is not easy right now but slowly, slowly we are getting to the points. P 404

Finally, some HD patients developed resistance to adapt to new policies and procedures and this alters with the way nurses care for them. For instance, a nurse said:

To make HD better or to be less of infection to be happening we are setting many procedures or protocols and then many people are thinking that we are stressing, we are stressing, but they don't know the impact of changes. Like when we want to connect those with catheters we are giving them masks. And then

they say: Ah! No! We went to King Faysal, to CHUK or somewhere else they are not giving face masks. So why are you giving these face masks? And then you explain them P 404.

CONCLUSION TO CHAPTER FOUR

This chapter described two major themes which emerged from the study. A sufficient number of facilitating factors to nurse performance was found to influence the performance of nurses in HD settings. However, plenty of barriers to nurse's performance were identified and described and they were found to affect the nurse's performance but also the patient's health outcome. It is of paramount for hospital authorities and HD centers managers to seek for strategies that will strengthen the facilitating factors to nurse performance in place but also measures have to be put in place to eliminate identified barriers so as to enhance nurse performance and improve patient's health outcomes.

CHAPTER FIVE 5. DISCUSSION

5.0. INTRODUCTION

This chapter focused on comparisons between the findings of this study and those of related studies. This discussion focuses on the demographic findings and identified themes. This study explored factors that influence the performance of nurses in the care of patients on hemodialysis treatment in selected four hemodialysis units in Rwanda. Two main themes namely facilitating factors and barriers to the performance of nurses were revealed by the use of thematic analysis; each of them was made of six subthemes.

5.1 DEMOGRAPHIC FINDINGS

Age of HD nurses involved in the study is an essential element for interpretation of the results. The findings of this study show that all involved nurses (12 nurses) were in their productive age ranging from 20 to 49 years old. This is in contrast with (Kamati, 2014) study done in Namibia involving professional nurses who were working at the referral and training hospital. In his study, (40%) of involved nurses were between 51 and 60 years of age. This can be assumed that the age of HD nurses in the present study facilitate them to carry out HD activities.

Even if nursing practice is dominated by females, especially in Africa, it is important to find out the number of male HD nurses who participated in this study to get their perspectives about the study phenomenon. Among twelve study participants, nine were female and the remaining three were male. This is similar to two studies in Namibia involving professional nurses by (Kamati, 2014; Awases, 2013) which reported 92% of female and 8% of male and 93.3% of professional nurses and 97.6% of nurse managers were female respectively. Assumption can be made that HD settings in Rwanda are dominated by female.

The findings of this study showed that majority of HD nurses have advanced diploma in Nursing and four possess bachelor's degree in nursing. This is again similar to a study by Kamati (2014) on factors affecting the performance of professional nurses in Namibia in which around 75% of nurses had diploma in nursing while 23% hold bachelor's degree in nursing. This can bring assumption that HD nurses do not possess specialized knowledge and skills needed to care for HD patients. There is a need to upgrade the level of education of these nurses to achieve improved performance and patient care delivery.

The findings of the study show that the working experience of nurses in hemodialysis ranges from 8 months to 7 years and their work experience as nurses varies from 2 to 16 years. This can be concluded that HD nurses have extensive working experience as a nurse which has exposed them to have a better background for nursing activities enabling them to care for patients.

5.2. FACILITATING FACTORS TO NURSE PERFORMANCE

The first main theme entitled facilitating factors to nurse performance emerged from the study and was made of six subthemes namely the continuous professional developments, good interpersonal relationship within staff, personal related factors, receiving feedbacks on nurse performance, good working environment and effective leadership and management. Each of the above subthemesis below discussed.

Continuous professional developments were reported by nurses to facilitate their performance. It is well known that health care providers perform well when they possess a package of knowledge and skills necessary to perform their duties. In that case, they are knowledgeable of what to do and their job performance depends on the trainings they received. Nurses in this study also emphasized on the importance of the work related trainings they received prior or during their hemodialysis work saying that those trainings mainly focused on practical component of hemodialysis machine have facilitated them to perform better on their duty.

These findings are in line with other studies. In Iran, in a study by Nobahar and Tamadon (2016) which aimed to assess the barriers and facilitators of care for hemodialysis patients; participants reported the need for nurses to receive special trainings regarding the use of dialysis devices, to possess hemodialysis skills and to be capable to manage associated complications were reported facilitators of care delivery to HD patients. On the other hand, these findings are contradicting with a study in Ethiopia on analysis of factors affecting the performance of nurses in public hospitals and health centers in Addis Ababa by (Negussie, 2010). The study revealed out that there was inadequate staff developments programs referring to in service trainings and the continuous education opportunities for nurses. A conclusion can be made that this kind of staff development in the context of

nurses in hemodialysis units in Rwanda has enhanced their performance to care for Hemodialysis patients as stated by nurses.

Nurses also revealed good interpersonal relationship among staff as another facilitating factor of their performance. They focused on the importance of good communication behaviors among team members, the relationship between them, the fact that they have a good team work and the fact that they take decision as a team. This interpersonal relationship assisted them to work collaboratively and to provide quality care to CKD patients on HD, to share knowledge and information about patients' condition and it improved patients' health outcomes.

These finding was also highlighted by Awases (2013) in a study done in Namibia about factors affecting the performance of professional nurses. In this study; good interpersonal relations encompassing communication and teamwork was reported among factors influencing the performance of nurses. In addition, the findings of a phenomenological study on how nurses and their work environment affect patient experiences of the quality of care by Kieft *et al* (2014); registered nurses showed that it was necessary to build up and keep collaborative working relationship among professionals saying that in case this happen, concerned professionals interact and operate in a complementary way and show mutual respect and they trusted that problems will be solved sooner when there is information sharing and communication. This is a positive element in some hemodialysis units in Rwandan that should be strengthened.

Nurses in this study reported personal related factors which influence their performance and this was made of nurses working experience and their level of education. The working experience of nurses in HD settings facilitated nurses to care for Hemodialysis patients. This is supported by Kieft *et al* (2014) study findings in which nurses' perceptions were that nurses should possess working experience which is gained through practice. They stated that junior and senior nurses exchange knowledge and do tasks together. According to the above authors, experience facilitates patient experiences of quality of care. Nurses in selected HD settings in Rwanda have extended work experience in nursing profession and this facilitates them to carry out HD tasks.

Some nurses in this study said that their level of education facilitate them to carry out HD activities while others have reported their level of education was insufficient and it was associated with limited competency. In a study by Rahman ,Jarrar and Don (2015) done

in medical and surgical wards in Malaysian private hospitals on impact of nurse level of education on quality of care and patient safety, the findings revealed no impact of high education on quality of care and patient safety. Majority of nurses in the present study have advanced diploma in nursing while few of them possess bachelor's degree in nursing. Nurses perceive that their level is not sufficient to perform hemodialysis activities. Therefore, there is a need to upgrade the educational level of HD nurses in Rwanda to make sure they are well prepared to work in these settings.

Receiving feedbacks on nurse performance was another sub-theme of facilitating factor and this helped nurses to improve on their performance. These findings are in line with Uwaliraye (2011) study in which receiving feedbacks on nurse performance was a predictor of performance among staff and the same results were found by Negussie (2010). This is true because receiving feedbacks on job performance help staff to make changes according to the results of evaluations they have got and this further facilitate them to better perform in the future.

On the other hand, some nurses in this study revealed that they were not receiving formal performance feedbacks while others were not evaluated at all. These results are supported by two studies in Namibia by Awases (2013) in which formal appraisal to recognize skills gaps or good performance among nurses was lacking and also a weak monitoring and evaluation mechanisms was identified which might lead to poor performance on nurses (Kamati, 2014). This is a problem of concern for some nurses in HD settings because their performance cannot be improved or controlled whenever it is not measured. They should be evaluated and given the feedbacks so as to monitor their performance and make appropriate changes in case of need.

Good working environment made of enough equipment and staffing, feeling satisfied with the remuneration practices referring to a good salary and payment of extra working hours and nurse motivation by their supervisors were reported by nurses as facilitators to their performance. These findings contradict with Kamati (2014); Awases (2013) studies on factors affecting performance of nurses in which they found poor remuneration of nurses, inadequate number of nurses and insufficient equipment as factors leading to poor performance of nurses in Namibia. Therefore it is of great importance to strengthen this working environment among HD settings in Rwanda to ensure sustainability of good performance of nurses in these settings.

Effective leadership and management was another sub-theme of facilitating factor to nurse performance. Nurses emphasized on the role of the team leader who organizes the work for subordinates nurses and this helped them to achieve the set care goals. They also raised the importance of task allocation to a leading position done by the unit manager saying that this helps them to develop leadership skills and hands on skills which influenced their performance positively. This is different from Awases (2013) study in which some nurse managers did not have enough skills to prepare and supervise the delivery of nursing services or to direct nurses under their supervision. A conclusion can be made that this is a strong point for some HD units in Rwanda and it has to be sustained.

Managerial support characterized by the willingness of authorities to resolve HD problems was reported by nurses in this study as another facilitating factor to their performance. Some nurses stated that they get managerial support whenever needed especially in resolving the problems available in their settings. In a study by Bennett (2011) nurses stated that the quality of nursing care is under the influence of the head nurses, hospital or health center managers, and nephrologists; the head nurse and the manager of hospitals have an impact on the quality of nursing care. According to the nurses in the present study; some appreciated authorities in supporting HD services while others did not appreciate them. This is a problem which has to be addressed to facilitate the smooth running of HD activities.

Availability of policies and procedures in working settings was another facilitating factor to nurse performance. From their perceptions, nurses said that these policies and procedures help them to perform well on their duty and other nurses appreciated the structure of the working shifts at their working places. Those are positive points that must be maintained in all HD settings in Rwanda.

5.3. BARRIERS TO NURSE PERFORMANCE

Nurses in this study have revealed different barriers hindering their performance in HD settings. Six sub-themes namely personal related barriers, poor working conditions, organizational related barriers, barriers related to resources, barriers related to

collaboration between nurses and other personnel and patient-related barriers emerged from this main theme.

Personal related barriers were reported by nurses to affect their performance. Among these barriers the marital status and nurse role in the family were stated by some nurses saying that in case children are sick, this impacted the way they cared for hemodialysis patients. Although some nurses appreciated their level of education as one of the facilitating factor to their performance; other nurses raised the issue of their current level of education which they rated as insufficient compared to the tasks they are expected to carry out in hemodialysis saying that they limited their competency and do not enable them to perform well on hemodialysis duties. Therefore it is of paramount to upgrade the level of education of these nurses for them to be able to meet the needs of Hemodialysis patients.

Poor working conditions were also raised by nurses as barriers to their performance which was characterized by insufficient number of nurses, inflexible work schedule, overworking hours associated by lack of break time and fatigability and a big number of patients in need for HD. Consequently, nurses get tired, they don't take regular breaks and this has a negative impact on their performance.

These findings are in line with Kamati (2014) study findings in which 87% of registered nurses reported a shortage of staff to be a factor that led to poor performance of nurses on their duty. In addition, in a study by Awases (2013), the professional nurses involved in the study confirmed the shortage of staff and this led to poor performance of those nurses. In another study in South Africa by Makunyane (2012) on factors influencing performance of nurses, findings showed that nurses were experiencing a shortage of nurses at the clinics where employer and the community expected a lot of work to those nurses. This shows that HD settings in the present study have few staff resulting in elevated workload for those available nurses and this implicates that authorities react on this pending problem to enhance the working conditions of nurses in those settings.

Lack of work promotion and stagnant salary which are not in accordance with the needs of nurses also characterized the subtheme of poor working conditions barriers. They again talked about lack of additional incentives like paid trainings saying that this can make expertise nurses to feel unhappy and perform poorly. These findings were also highlighted by nurses in Kamati (2014) study on evaluation of factors influencing the performance of

registered nurses at the National Referral Hospital in Namibia. Nurses in this study reported that poor remuneration in their working settings contributed to poor performance among those nurses. There is need to address this issue so that nurses are satisfied with the remuneration they receive within their working institutions and hence their performance.

Organizational related barriers made of the geographical location of some HD units, the nature of hospital regulations regarding affordability to HD treatment and the fact that HD units are neglected by leaders was another sub-theme emerged from the barriers to nurse performance. Different environmental designs of hospitals are related to patient safety. Nurses showed that HD centers were situated far away outside the hospital or inside the hospital but far from the Intensive care units and this location affected both the nurse performance and patient's health outcome.

Nurses said that sometimes they have to wait for medications from hospital, they found difficult to transport patients from or to ICU, to or from Hospital or Hemodialysis units. This also delays transport of lab results from or to HD or laboratory and delays resuscitation in case of critical patients. In a study by DeLucia and Palmieri (2009); the layout of hospital and the rooms of patients can alter the competency of nurses and the patients safety. This is a negative point for some HD locations in this study which calls on the authorities of those HD to adapt the infrastructures whenever possible to facilitate patient's care and nurse performance.

The nature of hospital regulations regarding affordability to HD treatment and the negligence of HD facilities and CKD patients by some authorities were other barriers that nurses reported to affect their performance. These, in turn , led to limited affordability of hemodialysis treatment for patients with inadequate financial resources but also HD facilities, the staff in those settings and the problems they face were not addressed to because authorities neglected these settings. It is imperative for authorities to consider HD community and facilitate its integration into existing health services so as to achieve quality care delivery.

Barriers related to resources was another emerging subtheme from the theme of barriers to nurse performance and it was characterized by the lack of skilled trained personnel in nephrology field in general and hemodialysis settings in particular, inadequate staffing in

HD units and insufficient materials including few HD machines. In regard to lack of skilled trained personnel in hemodialysis settings; nurses perceive that they have theoretical and practical gaps regarding hemodialysis in particular, nephrology field in general and they reported to have limited skills in regard to provision of emotional support to CKD patients as well as inadequate knowledge about management of patients with renal diseases.

These findings are in line with Awases (2013) study in which only 44.1% of nurses agreed that continuous education opportunities existed in their working settings, while 50.0% of nurse managers said that opportunities do not exist. Again 32.4% of nurses said that provided in-service trainings addresses the skills gap compared to 53.6% of nurse managers. The researcher concluded that staff development programs were inappropriate and irrelevant. This is not different to the context of nephrology field in general and HD in particular in Rwanda when considering the records from nurses 'perspectives in this study about the continuous professional developments programs.

HD nurses also reported that they lack sufficient work related trainings and lack of hemodialysis-related documentation. This a negative point hindering the development of nurses. Therefore these nurses should be provided with appropriate work related trainings to equip them with knowledge and skills in regard to management of CKD patients, boost their skills on provision of emotional support and enhance their performance. These findings are similar to Kamati (2014) study in which nurses reported lack of trainings as one of the factors contributing to poor performance. Similarly to Awases (2013) study findings in which professional nurses in Namibia had average skills in providing patient counseling 45; 31.3% and tasks related to counseling were reported as the most difficult by 50 nurses making 34.0%. These are needed skills for nurses in HD units because they care for End Stage renal disease patients, some of them are depressed due to permanent loss of kidney function, requiring nurses to possess counseling skills to assist those patients.

The problem of staffing in HD units was also emphasized on by informants. Insufficient number of nurses, lack of nephrology doctors, technicians and lack of experts in hemodialysis were reported in HD units involved in this study. These findings are supported by Kamati (2014) study done in KISH hospital in Namibia in which 87% of the registered nurses in the study revealed that there was a shortage of nurses to meet the

patients' needs in their working settings and this led to poor performance of those nurses. This can be concluded that there is few staffing in HD settings in Rwanda and this has a negative impact on nurse's performance.

From nurse's views, there was a lack of needed materials for patient care and this affected the quality of service delivered to patients. In case of insufficient number of dialysis machines; this delays some patients who have to wait for others to end up with their treatment session and finally nurses deliver HD treatment to those patients already tired with a risk of poorly performing. These findings are supported by Kamati (2014) study in which the majority of nurses involved in the study said that needed equipments were lacking in their working settings to care for patients. Thus, the working environments for these nurses were not conducive for them to work appropriately; rather it hinders them to deliver quality care to patients. This is a problem for which HD managers have to consider and appropriately manage so that nurses have all needed materials for patients 'care.

Barriers related to collaboration between nurses and other personnel in working institution were also reported by informants as another barrier to their performance. Nurses stated that there is a problem concerning poor collaboration between nurses and technicians, the problem of information sharing because some Hemodialysis nurses do not participate in meetings which made difficult for them to implement changes when needed. They also raised the problem regarding lack of information sharing and issues in communication with other services and authorities. These findings are contradicting with Awases (2013) study on factors affecting the performance of professional nurses in Namibia. In this study, a total of 69 nurses reported that there is a huge collaboration among staff of hospital which influenced them positively on their performance. Therefore, there is a need for good relationship and collaboration among hospital staff in the context of Rwanda so as to create a good teamwork which may contribute to high productivity and job satisfaction among staff which in turn lead to good performance.

Finally, the patient-related barriers were reported by nurses to affect their performance. Under this subtheme, nurses talked about what they called Mind management from next of kin of CKD patients. In this case, the stay of patients relatives in HD settings while their patients are on HD session affected the performance of nurses by interfering with nurses activities, the patients next of kin refused to stay out of the room, wanted to remain

with patients and this is associated with health risks like HD catheter infections. The findings are similar to Nobahar and Tamadon (2016) study in which among reported challenges in the delivery of care for HD patients, the presence of caregivers in HD units disturbed the provision of care to patients and elevated the chance for infections. Therefore patient's caregivers should be taught about HD treatment modalities to facilitate patients' care delivery.

CONCLUSION TO CHAPTER FIVE

This chapter described the findings of the present study in relation to the findings of other studies. Different factors were reported by nurses to influence their performance while caring for HD patients. On the other hand; a sufficient number of barriers were found to affect the performance of nurses in the care of hemodialysis patients. A sufficient number of studies on factors influencing the performance of nurses were done in health settings in general; no similar studies were done in hemodialysis settings. Additional researches in the field of nephrology in general and hemodialysis units in particular are recommended.

CHAPTER SIX. CONCLUSION AND RECOMMENDATIONS

6.1. CONCLUSION

The purpose of the study was to explore factors influencing nurse's performance in the care of hemodialysis patients in selected hemodialysis units in Rwanda. The findings obtained from this study revealed a sufficient number of facilitating factors and barriers to the performance of nurses in hemodialysis settings in Rwanda. The undertaken continuous professional developments, good interpersonal relationship among staff, receiving feedbacks on nurse performance; personal related factors, good working environment and effective leadership and management were identified facilitating factors to nurse performance. If these elements are sustained in nursing practice, especially in hemodialysis units, this will mostly result in quality care delivered to patients on Hemodialysis.

Regardless the facilitating factors; various barriers hindering nurses 'performance were identified from this study. The list include personal related barriers ,poor working conditions, organizational related barriers, barriers related to resources (human and materials),barriers related to collaboration between staff and patient related barriers. Strategies should be put in place to address these barriers so as to enhance nurses' performance, patients care and patient's health outcomes.

6.2. RECOMMENDATIONS

This study offer important feedback about the factors influencing the performance of nurses in HD in Rwanda. Therefore, the following recommendations are addressed to respective institutions and persons so as to improve the performance of nurses as well as the quality of care nurses deliver to HD patients.

Recommendations for administration

A sufficient number of barriers to the performance of nurses were identified which might have been managed by administrators of UTHK, KFH, UTHB and KDC hemodialysis centers. The following recommendations are made for them:

- ❖ To hire a sufficient number of qualified human resources encompassing registered nurses, nephrology doctors, counselors and technicians who are dedicated to manage patients with renal diseases. This should be in line with normal nurse patient ratio and doctor- patient ratio.
- ❖ To motivate their employees by providing work-related promotions and salary adjustment whenever possible. This will bring staff satisfaction and their retention at work which in turn leads to improved quality care delivery.
- ❖ To ensure the infrastructures of HD units are situated in such a way that facilitate transports and patients care.
- ❖ Patients with renal failure in need for HD treatment are currently increasing in the context of Rwanda and in consideration with financial status of most of Rwandan and the cost of hemodialysis treatment, affordability to this form of treatment is limited. Thus, administrators of HD settings are recommended to adapt the cost of HD with the Gross Domestic Product of Rwandan.
- ❖ Limited knowledge and skills among HD nurses was identified as a barrier to their performance. Therefore, there is a need to build knowledge and competencies of those nurses through provision of continuous professional developments, work related trainings plans and upgrading their level of education in nephrology specialization.
- ❖ Strategies have to be put in place to ensure availability of sufficient materials and the number of hemodialysis machines is corresponding to the patients in need. This will reduce stress of nurses caused by a long list of patients waiting for hemodialysis services.
- ❖ Hemodialysis treatment being the commonest mode of treatment for renal failure patients in Rwanda, its cost is not covered by most of health insurances including the Community-Based Health Insurance (CBHI) which is used by most of

Rwandan at 94% (RDHS, 2014-2015). Therefore, the Ministry of Health and the Ministry of Local Government are recommended to facilitate affordability and accessibility of HD services by integrating HD related costs into existing health services covered by different insurances available in RWANDA in general but also for the CBHI users in particular.

- ❖ Hemodialysis settings were shown to be neglected by some leaders, to be isolated from the rest of other services in hospitals. It is recommended for nurse managers to ensure HD nurses are represented among decision makers so as to facilitate information sharing and the implementation of taken decisions.

Recommendations for nursing practice

- ❖ Nurse Managers in collaboration with the National Council of Nurses and Midwifery should elaborate a scope of practice for nurses in HD units and ensure it is implemented.
- ❖ To elaborate guidelines relating to hemodialysis which give more orientation for renal failure patients and their caregivers as well as planning for sensitization programs aiming at increasing their awareness about HD treatment modalities. This, in turn, will reduce interferences between nurses' activities and behaviors of some caregivers and patients.
- ❖ Ensure of integration of a psychologist or a psychiatrist nurse in hemodialysis settings to provide counseling services to End Stage Renal Failure patients.

Recommendations for nursing education

- ❖ From the research findings, majority of nurses in Rwandan HD settings are holder of advanced diploma in general nursing with a short term trainings on HD. Current teaching health institutions are recommended to incorporate special courses to nurses regarding nephrology field so as to equip nurses with knowledge, skills, and competence needed to care for patients with renal diseases in general and patients on HD treatment in particular.

- ❖ They are also recommended to train other nurses at advanced level of education, especially nephrology nurse specialists equipped enough to care for patients with different renal conditions.

Recommendations for future researchers.

Future researchers are recommended to carry out researches pertaining to nurses in HD settings but also to HD patients. The followings are recommended researches:

- ❖ Studies evaluating HD nurse's performance and strategies to put in place to strengthen nurse performance leading to quality care delivered to patients.
- ❖ Studies on association of patients' satisfaction with care delivered by nurses in HD settings.
- ❖ Replication of this study involving all HD settings in Rwanda.

LIMITATIONS TO THE STUDY

- ❖ The approach of this study was qualitative. Translation of the interview guide and the participant's records might have altered the original content of the guide as well as the ideas of informants.
- ❖ All aspects related to factors influencing the performance of nurses in HD units might not have been explored during this study. Nevertheless the findings of this study and the interview guide developed may serve as a baseline for future research covering aspects unnoticed during this study.
- ❖ There was a delay to get permission for data collection from one of the study settings and this has negatively affected the work plan of the researcher.
- ❖ The researcher carried out this research with limited financial means. More funding could assist the researcher to involve different HD centers in the country. A face to face method used for data collection might have introduced bias for the interviewer.

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APPENDICES

APPENDIX 1 .INFORMATION SHEET

UNIVERSITY OF RWANDA / COLLEGE OF MEDICINE AND HEALTH SCIENCES

DIRECTORATE OF RESEARCH AND PUBLICATIONS

Greetings! My name is Marie Jeanne TUYISENGE. I am currently registered as Master's student at the University of Rwanda, College of Medicine and Health Sciences in the School of Nursing and Midwifery.

I am conducting a research study on “**Factors influencing nurse’s performance in the care of Hemodialysis treatment in selected hemodialysis units in Rwanda.**”

Purpose of this study: The aim of the study is to explore nurses’ perception of factors influencing their performance in the care of hemodialysis patients in selected hemodialysis units in Rwanda.

What participation involves: If you agree to participate in the study, you will be asked to participate in a face to face interview with the researcher and interview will be audio recorded. The interview takes about 45 minutes to 1 hour. If you do not want to be recorded, the researcher will write down the information you provide in a notebook.

Confidentiality: You are assured that all information you provides in this study will not be disclosed to anybody. Interview will take place in private, quite room, the information collected during interview will be analyzed by using identification number not names. If this study is published or presented at a scientific meeting, names and other information that might identify you will not be used

Risks: No harm is anticipated to you because of participating in this study.

Benefits: You will derive no direct benefit from participating in this study. However, I hope the results of this study will provide valuable information regarding factors influencing your performance in the care of hemodialysis patients. Also, this information

will direct nursing education, practice, research, administration, training, and continuing professional development. The study will benefit you by knowing the barriers and facilitating factors to your performance. Recommendations will be made aiming at sustaining facilitating factors but also to eliminate identified barriers

Voluntary Participation: Your participation in this research study is voluntary. You may choose not to participate and you may withdraw your consent to participate at any time. You will not be penalized in any way you should decide not to participate or to withdraw from this study.

In Case of Injury: We do not anticipate that any harm will occur to you related to participation in this study

Contact information: If you have any questions or concerns about this study or if any problems arise, please contact:

1 .Marie Jeanne TUYISENGE at mjsenge@gmail.com, Mobile phone number: 0788896409 Or

2. My supervisors Professor Adejumo Oluyinka at adejumoo@gmail.com, Mobile phone number 0784445859, Providence UMUZIGA at umuprov20@yahoo.com, mobile phone number: 0788500486

3. If you have any questions or concerns about your rights as a research participant, please contact the Chairperson of the Institutional Review Board in College of Medicine and Health Sciences at **0788 490 522 and** of the Deputy Chairperson at **783 340 040**.

Participant's signature _____ Date: _____

Researcher Signature -----Date-----

A copy of this information sheet should be given to you.

APPENDIX 2. INFORMED CONSENT FORM TO PARTICIPATE IN RESEARCH

Study Title: Exploration of factors influencing nurses' performance in the care of hemodialysis patients at selected nephrology units in Rwanda.

You have been asked to participate in a research study. You have been informed about the study by Marie Jeanne TUYISENGE and you have read the information document that contains the details of the study. You may contact me on 0788896409 or mjsenge@gmail.com whenever you have questions about the research or if you get in trouble as a result of the research. You may also contact any of my supervisors: Professor Adejumo Oluyinka at adejumoo@gmail.com, Mobile phone number:0784445859, Providence UMUZIGA : umuprov20@yahoo.com, mobile phone number:0788500486. This proposal has been reviewed and approved by UR CMHS IRB, which is a committee whose task it is to make sure that research participants are protected from harm. If you wish to find more about the IRB, you may call at **0788 490 522 or 0783 340 040**. Your participation in this research is voluntary and you will not be penalized or lose benefits and it will not impact your job condition if you refuse to participate or decide to withdraw from the study. If you agree to participate in this study, you have to sign the document below in the space provided as a sign of your acceptance of participation.

I have read the information document or it has been read to me. I have had the opportunity to ask questions about it and any questions that I have asked have been answered to my satisfaction. I consent voluntarily to participate as a participant in this research.

Signature of participant:

Date:...../...../.....

APPENDIX 3. INYANDIKO IKUBIYEMO AMAKURU ARAMBUYE KU BIJYANYE N'UBU BUSHAKASHATSI

KAMINUZA Y'U RWANDA / ISHAMI RY'UBUVUZI N'UBUZIMA

IBIRO BISHINZWE UBUSHAKASHATSI NO KUBUMENYEKANISHA

Ndabasuhuje ! Amazina yanjye nitwa Marie Jeanne TUYISENGE . Ndi umunyeshuri mu cyiciro cya gatatu cya kaminuza muri Kaminuza y'Urwanda, mu ishami ry'Ubuvuze n'Ubuzima , mu ishuri ry' ubuforomo n'ububyaza. Ndi gukora ubushakashatsi bwitwa **“Gusesengura impamvu zifite aho zihuriye n'imikorere y' abaforomo bavura abarwayi bavurwa na hemodiyalize muri tumwe mu dushami twa diyalize mu Rwanda .”**

Intego y'ubu ubushakashatsi:Intego y'ubu ubushakashatsi ni ukumenya byimbitse impamvu zifite aho zihuriye n'imikorere y' abaforomo bavura abarwayi bavurwa na hemodiyalize muri tumwe mu dushami twa diyalize mu Rwanda

Icyo kwemera kugira uruhare muri ubu bushakashatsi bivuze: Niwemera kugira uruhare muri ubu bushakashatsi urasabwa kwemera kugirana ikiganiro mbonankubone n'uri gukora ubu bushakashatsi amajwi afatwe n'akamashini kabugenewe . Ikiganiro mbonankubone kiramara hagati y'iminota mirongo ine n'itanu n'isaha imwe. Niba utemera gufatwa amajwi , uri gukora ubushakashatsi arandika ibyo usubiza mu ikayi yabugenewe.

Kubikirwa ibanga :Turakwizeza ko amakuru yose utanga muri ubu bushakashatsi azakomeza kuba ibanga.Nta wundi muntu uzayamenya uretse uri gukora ubushakashatsi.Ikiganiro mbonankubone kirabera mu cyumba cyihariye gituje kandi kiri cyonyine . Mu gihe cyo gusesengura amakuru utanga, hazifashishwa imibare aho kuba amazina yawe .Nibiba ngombwa ko ubu bushakashatsi busakazwa ahandi cg ibyavuyemo bikerekanwa mu nama cyangwa se mu biganiro ; amazina yawe n'ikindi kintu cyose cyagaragaza uwo uriwe ntibizakoreshwa.

Ibyago /ingaruka :Nta ngaruka mbi ziteganyijwe ku muntu uzemera kugira uruhare muri ubu bushakashatsi.

Inyungu: Nta nyungu zihuse uzagira kubera kugira uruhare muri ubu bushakashatsi . Ariko ibizava muri ubu bushakashatsi bizagaragaza amakuru ahagije yerekeranye n’impamvu zose zifite aho zihuriye n’imikorere yawe nk’umuforomo uvura abarwayi bavurwa na hemodiyalize. Amakuru azavamo azifashishwa mu kwigisha abaforomo, mu guhugura abaforomo , mu bundi bushakashatsi bufite aho buhuriye na hemodiyalize , mu bijyanye n’imikorere y’abaforomo ndetse no mu buyobozi bw’aba foromo.Ubushakashatsi buzakugirira umumaro kuko buzagaragaza ibibazo uhura nabyo mu mikorere yawe niba udakora neza uko bikwiye ndetse niba ukora neza impamvu zibitera zizamenyekana hasabwe ko zagumaho

Ubushake mu gukorerwaho ubushakashatsi :Kwemera ko ukorerwahoububushakashatsi ni ubushakebwawe. Ushobora kwanga kugir auruhare muri ububushakashatsi ndetse ntagihano uzagira mu gihe cyose wifuje kudakorerwaho ubu bushakashatsi cyangwa se mu gihe wifuje guhagarika

Mu gihe cy’ibikomere: Nta bikomere biteganyijwe ku muntu uzagira uruhare muri ubu bushakashatsi.

Abo kwifashisha mu gihe ushaka amakuru yimbitse: Mu gihe ugize ikibazo icyo aricyo cyose kerekeranye n’ubu bushakashatsi ,wakwifashisha aba abantu bakurikira.

1 .Marie Jeanne TUYISENGE, Telefone: 0788896409, email: mjsenge@gmail.com

2. Professor Adejumo Oluyinka, Telefone: 0784445859, email:adejumoo@gmail.com, Providence UMUZIGA: umuprov20@yahoo.com , telephone : 0788500486 .

3. Mu gihe ugize ikibazo ku bijyanye n’uburenganzira bwawe ku bijyanye n’ubu bushakashatsi , wahamagara kuri izi numero : 0788 490 522 z’uhagariye IRB nk’ agashami gafite mu ishingano kugenzura ko abazifashishwa mu bushakashatsi nta ngaruka byabagira; cyangwa umwungirije kuri izi numero : 0783 340 040

Umukono w’ugira uruhare mu bushakashatsi.....Itariki

Umukono w’uri gukora ubushakashatsi.....Itariki.....

Urahabwa kopi y’uru rupapuro ruriho amakuru yimbitse yerekeranye n’ubu bushakashatsi.

APPENDIX4.INYANDIKO ITWEMERERA UBUFATANYE IGENEWE UZADUFASHA MURI UBU BUSHAKASHATSI

I

nyito y'ubushakashatsi: **Gusesengura impamvu zifite aho zihuriye n'imikorere y' abaforomo bavura abarwayi bavurwa na hemodiyalize muri tumwe mu dushami twa diyalize mu Rwanda .”**

Twagusabye ubufatanye muri ubu bushakashatsi.

TUYISENGE Marie Jeanne yakumenyesheje uko ubu bushakashatsi buteye unasoma inyandiko isobanura uko ubushakashatsi buteye. Ushobora no kungeraho ukoresheje iyi nimero ya telefoni: 0788896409 cyangwa iyi imeli : mjsenge@gmail.com igihe icyo aricyo cyose ukeneye kugira icyo umbaza kijyanye n'ubu bushakashatsi . Ushobora no guhamagara abarimu bampagarariye muri ubu bushakashatsi kuma adereshe akurikira: Professor Adejumo Oluyinka.Imeli: adejumoo@gmail.com,telefoni:0784445859, [Providence UMUZIGA, umuprov20@yahoo.com](mailto:umuprov20@yahoo.com) , telefoni: 0788500486 .

Ubu bushakashatsi bwagenzuwe kandi bwemezwa na UR /CMHS IRB ifite ishingano zo kugenzura ko abazifashishwa mu bushakashatsi nta ngaruka byabagiraho. Ukeneye kugira ibyo umenya kuri IRB, wavugisha uhagarariye IRB kuri 0788 490 522 cyangwa umwungirije kuri 0783340040. Ubufatanye bwawe muri ubu bushakashatsi buturuka kubushake bwawe, ntagihano cyangwa se gutakaza inyungu runaka ndetse n'ingaruka iyo ariyo yose wagira ijyanye n'akazi kawe mugihe waba wanze kudufasha muri ubu bushakashatsi cyangwa se mugihe waba uhagaritse ubufatanye . Mugihe waba wemeye kudufasha muri ubu bushakashatsi , urasinya mu mwanya wabigenewe nk'ikimenyetso cyerekana ko watwemereye ubufatanye.

Nasomye iyi nyandiko cyangwa bayinsomeye. Nahawe umwanya wo kubaza ibibazo kandi buri kibazo nabajije nahawe igisubizo kinyuze. Nemeye ku bushake bwanjye gufasha muri ubu bushakashatsi.

Umukono w'umufatanyabikorwa.....Itariki:/...../.....

APPENDIX 5. INTERVIEW GUIDE

This interview guide is composed of two sections. Section one asks about nurses' personal information. Section two asks open questions regarding the factors and barriers influencing nurse's performance in the care of hemodialysis patients.

SECTION 1. BIOGRAPHICAL DATA OF NURSES IN HEMODIALYSIS UNITS

Hemodialysis site Number:

Number of nurse:

Date of interview:/..../2017

Time of interview: Start..... Finish.....

Nurses characteristics:

Age

20-29

30-39

40-49

50-59

60+

Sex:

Male

Female

Marital status

Single

Married

Divorced

Widowed

Engaged

Educational level

Master's degree in Nursing

Bachelor's in Nursing (A0)

Advanced diploma in Nursing (A1)

Associate Nurse (A2)

Other : Please specify.....

Years of experience as a nurse

Duration of working experience in hemodialysis unit

Years of experience as a nurse

SECTION 2. QUESTIONS RELATED TO FACILITATING FACTORS AND BARRIERS TO NURSE PERFORMANCE IN THE CARE OF HEMODIALYSIS PATIENTS

2.1. Tell me in details about your nursing activities in this unit:

- ❖ Preparation of the patient and the hemodialysis machine prior dialysis session
- ❖ Assessment of the general condition of the patient and assessment of the hemodialysis access site
- ❖ Measurement and recording of the vital signs in addition to body weight measurement
- ❖ Evaluation of different lab results and revision of medications that the patient is taking
- ❖ Connecting and disconnecting the patient to the dialysis machine
- ❖ Monitoring of the patient throughout hemodialysis session
- ❖ Administration of prescribed medications

2.2. From what you have said about nursing activities you perform, explain the factors which make you doing those activities better?

Probes:

- ❖ What are the kinds of professional trainings you received and how they influenced your performance? When was the last training?
- ❖ Describe the staffing in your unit and how it influences your performance.
- ❖ Talk about the materials, equipment and the working conditions and how these influence how you do your work?
- ❖ Tell me about the policies and procedures in this hemodialysis unit and how they impact or influence your performance.
- ❖ Tell me about receiving feedbacks on your performance
- ❖ Any other thoughts you want to add on?

2.3. Are there barriers that you face during your daily activities which may affect your performance? If yes, describe them?

Probes:

- ❖ Tell me how you feel about your competence in what you do. Is it enough? Do you have some gaps? What are they?
- ❖ Are the continuous professional developments you received aligned with the gaps you have identified?
- ❖ Tell me about materials, equipments, and space in this unit and how they affect your performance?
- ❖ How are the working conditions and how do they affect your performance?
- ❖ How are the work promotions and salary adjustment done in this institution? Does this negatively impact on your performance? How?
- ❖ Tell me about working schedule? If the workload is too much or it's okay, what would you suggest to make it improved or made better?
- ❖ Any other thoughts about anything we talked about?

Thank you for your collaboration!!!!!!