



**ASSESSMENT OF RISK FACTORS ASSOCIATED WITH  
MALNUTRITION IN UNDER FIVE CHILDREN IN RULINDO DISTRICT.**

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**Masters of Nursing Sciences(Pediatrics)**

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

**MASTER OF NURSING SCIENCES (PEDIATRICS)**

**In the college of Medicine and Health Sciences**

**Supervisor: Dr. MUKESHIMANA Madeleine**

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**QUALITY OF LIFE IN ADULT PATIENT WITH CHRONIC NON COMMUNICABLE  
DISEASES (DIABETES AND HYPERTENSION) ATTENDING OUTPATIENT CLINIC  
OF KIGALI REFERS HOSPITALS**

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**Medical surgical nursing**

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Kigali, June, 2017

## **A. DECLARATION**

I declare that this dissertation submitted in partial fulfillment of the requirements for the degree of masters of Science in nursing, at the University of Rwanda/College of Medicine and Health Sciences, is my original work and has not previously been submitted elsewhere. Also, I do declare that a complete list of references is provided indicating all the sources of information quoted or cited.

MUHIMPUNDU R. Diane

Signed.....

## **B. DEDICATED**

To my almighty God for his unlimited love, forgiveness and favor he gives to me for my daily life

To my beloved husband HEZAGIRA Emery for his overwhelming morally support, understanding and encouragement he offers to me during this heaviness journey.

To my children SHEMA HEZAGIRA Sven and SHAMI HEZAGIRA Aella Gretta for their psychological support

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## **D. ABSTRACT**

**Background:** Non communicable diseases are now 21<sup>st</sup> centenary major health and development challenges, where their long-term impairment and disability result the negative impact on quality of life on the other hand has negative impact on the society, economic and the environment. The inadequate management of these diseases leads to the negative effect on the sustainability of development at both the country and global level. The several studies concluded that people diagnosed with hypertension and diabetes their quality of life were lower compared to general population. The population of Rwanda is now characterized by increasing life expectancy and westernization, hypertension and diabetes has now changed from a relative rarity to a major problem as a result and account not little number of morbidity and premature mortality.

**The Purpose of the study:** were designed to assess the quality of life (QOL) in the patients with hypertension and diabetic as chronic non communicable diseases (NCDs).

**Methods:** The study was quantitative non experimental, descriptive cross-sectional. The total number of participants was 160 patients diagnosed with hypertension and diabetes, who were followed in the outpatient clinic of Kigali university teaching hospital and Rwanda military hospital from March to May, 2017. The quality of life was measured by using World Health Organization Quality Of Life (WHOQOL-BREF) questionnaire self administration. Bivariate and backward multiple linear regression analysis conducted to determine the association between QOL of study population and socio- demographic variables. Data was analyzed by using SPSS version 20.

**Results:** the majority respondents' score indicate a relatively moderate quality of life, lower quality of life in physical domain and good in social domain. The study showed statistically significant difference of Age ( $p < 0.05$ ) in all QoL domains and education level ( $p < 0.05$ ) and quality of life.

**Conclusion:** poor quality of life was associated with ageing, lower education status. The appropriate strategies need to be implemented in order to prevent the growth of these non-communicable diseases due to their impact on quality of life and to improve the quality of life for the patients.

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## **F. LIST OF SYMBOLS AND ABBREVIATIONS/ACRONYMS**

**CBHI/MUSA:** Community based health insurance

**CHUK (UTHK):** University teaching hospital of Kigali

**HRH:** Human resource for health

**MINICHAL:** Mini-Questionnaire of Quality of Life in Hypertension (Mini-cuestionario de calidad de vida en la hipertensión arterial)

**MOH:** Minister of health

**NCD:** Non communicable disease

**QOL:** Quality of life

**RMH:** Rwanda military hospital

**SF 36:** Short Form Health Survey 36-Item

**SPSS:** Statistical Package for the Social Sciences

**WHO:** World Health organization

**WHOQOL-BREF:** World Health organization quality of life

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## **CHAPTER I: INTRODUCTION**

The study was highlight the burden of non communicable disease as leading causes of death and disability that have negative outcomes on health and society specifically in the economic and the environment domains. These diseases have paired the sustainability of the development both at the country level and globally (Kankeu et al. 2013). Long-term impairment of health and resultant disability should be weighed and taken into full consideration in Rwanda healthcare system as well as healthcare provider for better life and outcomes. There are other diseases listed as non communicable diseases in WHO list however, hypertension and diabetes have been selected as two conditions that are considered in this study.

It is essential and beneficial for both healthcare provider and community to assess the quality of life for the patient by understanding how the quality of life for these patients is compromised by their disease.

### **1.1 OPERATIONAL DEFINITIONS OF KEY TERMS PERTINENT TO THE STUDY**

Non Communicable Diseases (NCDs) are defined as diseases of long duration which generally slow progression and are a worldwide major cause of adult mortality and morbidity (WHO, 2005a). Due to the purpose of the study, chronic NCDs were defined as hypertension and diabetes. Other NCDs include that also include cancer, chronic respiratory diseases, mental illness and injuries have not been selected as problem of this study.

Cardiovascular diseases are a group of diseases involving heart, blood vessels and any sequella from poor blood supply (Forum & Health 2011). Hypertension is one of the types of cardiovascular diseases that is defined as blood pressure  $\geq 140/90$  mm Hg (Mills et al. 2016). In this study hypertension defines also as high blood pressure ( $\geq 140/90$  mm Hg) and it was included patients with the diagnosis of hypertension and who have been followed up for at least a period of 3 months by physicians.



Diabetes is a metabolic disorder defined as having a fasting plasma glucose value  $> 7.0$  mmol/l (126 mg/dl) which occurs when the body is unable to regulate the glucose level appropriately in the blood due to poor sensitivity of insulin or the problem of hormone production in the pancreas (Forum & Health 2011). This study diabetes used this definition and it was include the patients with the defined disorder who were followed by physician for over three months.

Quality of life (QOL) is defined as a concept which consists of social, physical, environmental and psychological values. It also encompasses on how an individual measures the goodness of this aspect. These evaluations include individual emotions, reactions, life fulfillment, satisfaction with work and personal relationship (Diener et al, 1999). In this study the QOL is viewed as an “individual’s perception of his/her position in life, in the context of the culture and value systems in which he/she lives and in relation to his/her goals, expectations, standards and concerns” (WHOQOL -BREF, 1998).

## **1.2 BACKGROUND**

NCDs has become globally more prevalent in the past few decades are now major (68% of all deaths) contributors to the burden of diseases worldwide (WHO, 2014). In the 21<sup>st</sup> century NCDs are now the most important health and development challenges to the health system. In terms of the human suffering and the damage they cause to the socioeconomic component of the low and middle countries. Consequently, NCDs inflict a considerable financial burden on many households in the poor in low-income countries. Generally, premature mortality from these diseases is increasing and further strategies are needed for their prevention and control (WHO, 2014).

NCDs which are main contributor to the world health burden and include cardiovascular disease, diabetes, cancer, chronic obstructive pulmonary disease and obesity. They represent a leading threat to human health and human development in today’s world. The four major NCDs combined (cardiovascular diseases, cancer, chronic respiratory diseases and diabetes)

were responsible for 38 million (68%) of the world's 56 million deaths in 2012. In fact, more than 40% of them (16 million) were premature deaths under age 70 years. From them three quarters of all NCDs deaths (28 million), and the majority of premature deaths (82%) occur in low- and middle-income countries (WHO, 2014).

Despite the effort to address the burden of NCDs, the mortality from these NCDs as health problems will continue to increase. WHO projects that over the next ten years, globally-NCDs deaths will increase by 17% whereas the highest absolute number of NCDs deaths will occur in the Western Pacific and South-East Asia regions. The greatest number will grow progressively in the African region with 27% (that are 28 million additional deaths) and the Eastern Mediterranean region with 25% (WHO, 2013) .

The epidemiological transition from predominantly infectious to non communicable diseases is already well underway in Sub-Saharan Africa. Sub-Saharan Africa is now experiencing rapid demographic growth in their urban and rural population. Epidemiologically, these populations are affected by both infectious and chronic NCDs. These are becoming a second emergency burden that need to be addressed as it recommended by WHO, 2013. The NCDs were responsible for one-quarter of all deaths in 2004 (Dalal et al. 2011). According to Dalal et al (2011) Global Burden of Disease studies projected that by 2030 NCDs will be responsible of 46% of death and some Sub-Saharan Africa like: Democratic Republic of the Congo, Nigeria, Ethiopia and South Africa will present the higher age standardized death rates than high income countries.

Cardiovascular diseases include hypertension that is an important contributor to the global burden of disease and accounts for 7% of global disability. Diabetes remains the leading cause of death among the four major NCDs (Ataklte et al. 2014). It is recognized as the disease that has a negative affect the people's quality of life. In 2000, people with a diagnosis of hypertension estimated to include 972 million patients. Among them, 65% live in the developing countries. The number is expected to grow up to 1.5 billion by 2025 (WHO 2015). According to Mills et al (2016) in 2010, the global adult population (1.39 billion people) with a diagnosis of hypertension was 31.1%. In 2012, estimates project that 17.5 million people will die from NCDs. 6.7% million deaths were overall caused by

cardiovascular disease and 7.3 million were caused by stroke and heart attack. In 2007, it was estimated that there were 246 million people living with diabetes mellitus, 6 million new cases and 3.8 million deaths, with 70% of these patients living in the developing world (WHO, 2015). In 2008, estimates indicate that the worldwide diabetic prevalence was 10% and was responsible for 1.3 million of deaths globally (Mills et al. 2016). In general, the prevalence of increased blood pressure was higher in low-income countries compared to middle-income and high-income countries (WHO, 2014).

In some Sub-Saharan African countries, such as Tanzania and South Africa, one study estimates that 5 to 8% of urban adult populations are affected with diabetes, while 20–33% has hypertension (based on blood pressure levels of 160/95 mmHg (Aikins et al. 2010). It further projected that hypertension in 2030, the impact of this contributor to the disease burden will nearly double in SSA (Ataklte et al. 2014).

The Rwandan Ministry of Health has recognized the threat that NCDs pose to health and development in Rwanda and has articulated strategies for responding to NCDs in their Health Sector Strategic Plan for 2009 to 2012 (HSSP-2). The plan called for a national prevalence survey on NCD risk factors (MOH, 2009). NCDs death in Rwanda account for 64.6% in male and 56.2% in female deaths for people under 70 years old in Africa (Atlas of Health Statistics of the African Region, 2014). In 2013, NCDs were responsible for no less than 51.86% of all District Hospital outpatients consultation and 22.3% of District Hospital hospitalization (WHO, 2015). In 2014, NCDs were responsible for 48% of all deaths and cardiovascular diseases accounted for 13% and 2% for diabetes (WHO, 2016). The recent survey conducted in Rwanda showed that among the people who were tested, 11.2% have been diagnosed with high blood pressure with a high percentage in urban area as compared to rural and semi-urban area. It mentioned also that the prevalence of diabetes in the general population is 2.8% (WHO, 2015).

The population of Rwanda is now characterized by increasing life expectancy and westernization, “Hypertension has now changed from a relative rarity to a major problem” as a result. This epidemiological transition could partially be explained by the rapid urbanization with changes in lifestyles, particularly in nutrition habits and physical activity

patterns where more and more people are at risk of suffering from illnesses attributable to living a sedentary lifestyle (Banyangiriki & Phellips, 2013).

The evaluation of QoL has emerged as an important outcome measure for chronic diseases like diabetes and hypertension where in different studies were conducted to assess QoL among people diagnosed with diabetes and hypertension by using WHOQoL-BREF or SF-36 most of the studies reported moderate to lower QoL in different domain or dimension as physical, psychological, social relationships and environment compared to general population without these NCDs (Bhandari et al. 2016).

### **1.3 PROBLEM STATEMENT**

Africa is undergoing huge progressive growth of NCDs as second disease burden that generates increased morbidity and premature mortality. Also these NCDs (hypertension and diabetes) affect population productivity. Despite many strategies recommended by WHO for low and middle income countries in order to prevent and to control these chronic NCDs, the little is known on QOL of population in Rwanda about impact of these NCDs (hypertension and diabetes) and their complications that may have effect on quality of life. Although in Rwanda, several hospitals have started to implement programs to control the disease progression in patient diagnosed with chronic NCDs, these disease lifestyle structure requirement will remain influencing economic production and quality of life in total. This has prompted the attention of the researcher to design a study to identify the QOL in patient with diagnosis of chronic non communicable diseases.

In Rwanda, many people are shifting from rural to urban areas and this urbanization comes together with changes in lifestyles, especially dietary habits and physical activity patterns. Hypertension and diabetes are some of the diseases that are partially caused by a sedentary lifestyle if not well controlled the progression of these diseases might affect the quality of life of population. The Rwanda NCDs survey revealed that among those who had ever had their blood pressure taken, 11.2% have been diagnosed with high blood pressure. Thirteen point four percent (13.4%) of urban residents were declared to have hypertension. This is higher than rural and semi-urban dwellers (MoH, 2015). Based on the progressive growth of NCDs as second disease burden and impact of long-term treatment of diabetes and hypertension requirement affect patients' body and mind along with individual and social

function, it was the research intention to conduct this research that were assessed QOL among patients with chronic NCDs (diabetes and hypertension). There is also a need to assess the possibility of an association between QOL and socio-demographic factors.

## **1.4 OBJECTIVES**

### **Main objective**

The purpose of this study was to assess the quality of life in the patients diagnosed with hypertension and diabetes as NCDs.

### **Specific objectives**

- ❖ To assess demographic characteristics of patients.
- ❖ To assess quality of life using WHOQoL-BREF regarding overall quality of life, general health perception, physical domain, psychological domain, social relationships domain and environment domain of patients.
- ❖ To establish association between the quality of life as measured by WHOQOL-BREF and socio-demographic factors of the patients.

## **1.5 RESEARCH QUESTIONS**

- ❖ What is the total quality of life for patients as measured by WHOQoL-BREF?
- ❖ What is the overall general health and QOL in the domain of the patient?
- ❖ What are the possible socio-demographic factors predicting QOL as measure by WHOQOL-BREF?

## **1.6 SIGNIFICANCE**

The burden of NCDs is increasing globally and affecting productivity of person who diagnosed with these NCDs. There is growing concern in the world about the effect of this burden not only on health but also on sustainable development due to long-term treatment and special care. In attempt to offer our contribution in improving this patient's health, the researcher has designed with this study to explore QOL in patients diagnosed with NCDs (hypertension and diabetes).

Findings of the study on QOL among patients living with NCDs were served to show the magnitude of the health burden imposed on these specific patients. Based on the findings

from the current study, the student researcher had highlighted the recommendations and undertakes evidence based to advocacy for the benefit of patients with NCDs throughout the referred hospitals.

The result of this study could contribute to knowledge on QOL for these patients and could be useful in facilitating the decision makers of all health system level to enhance the quality of care for patients' long life treatment requirements. In addition, it could strengthen the new strategies for this diseases burden and enhance the appropriate actions to better assist patient productivity in the face of chronic disease conditions and will influence and improve their QOL within the surrounded community. The results of this study could used as evidence-based to implement best practice for improvement of QoL for the patient living with non communicable diseases and further study needs to be done to move the field forward and analytic study will help to understand the association of factors influencing QoL. The result showed that education among healthcare professional especially in nursing who face patient for long time have to enhance and implementing appropriate intervention that could support psychological patients' health and environment change.

### **1.7 SUBDIVISION OF THE STUDY**

The first chapter introduced in different view of this study and the second chapter discussed the various scientific aspect and techniques about the quality of life among hypertensive and/or diabetic patients. In chapter three addressed the study description, population of the study and sample size. The methods which were used for data collection, data management and data analysis were also discussed and presenting some study limitations and ethical consideration. In chapter four, descriptive analysis and inferential test analysis were used to present the findings of the study. In chapter five the discussion were made by supporting the finding with other previous researches. And last chapter six conclusions on the finding and recommendation were presented.

## **CHAPTER II: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

In this literature review the journals were mostly used and it composed two part of literature review where the first part were described theoretical literature and empirical literature as second. It describes the trends of hypertension and diabetic which are among NCDs and will explore the study done on QOL of the patient with these specified NCDs.

### **2.2 THEORETICAL LITERATURES**

#### **2.2.1 Quality Of Life View**

Quality of life had been viewed by differently author. Where the QOL defines by WHO as “an individual's perception of their position in life in the context of the culture and value systems in which they live, and in relation to their goals, expectations, standards and concerns”(WHO, 2012). This definition reflects the view that quality of life refers to a subjective evaluation, which is embedded in a cultural, social and environmental context. Quality of life is understood to be both subjective and multidimensional. It defines as subjectively because is the best measure from patients’ or individual’s perspective and as multidimensional cause require the research which inquire area of patient’s life that include physical health with function ability, psychological well being, social relationships support and environment well being (Cella, 1994). There is advantage to involving QoL as subjective and multidimensional in decision making care process (Cella, 1994)

#### **2.2.2 Quality Of Life Determinants**

Different analytic studies have broad considerable agreement existed to the quality of life as multidimensional components with three element models such as personal values, life conditions and personal satisfaction which interact to determine quality of life. Life condition is described objectively by determine person and their surround, while personal satisfaction described subjectively by determine person life condition and lifestyle and personal values determine by described the importance of personal which attaches to the various of subjective and objective life (Felce, 1997). Also different studies with factors analysis and scale had generally supported the presence of four primary dimension of health related QoL

described into grouped area such as physical health with function ability, psychological, emotional, social and environment well being (Cella, 1994).

QOL serves as an indicator in clinical trials for specific diseases, assesses the physical and psychosocial impact that the disorders may have on affected individuals, allowing a better knowledge about the patient and their adaptation to their unhealthy condition.

### **2.2.3 Quality of life measurement**

There are several instruments or questionnaires available that allow a reasonable assessment of the QOL of patients with different diseases. These instruments can be divided into two groups: the specific ones, that are based on individual assessment and the generic ones. Specific instruments are an alternative way to assess certain aspects of QOL in an individual and specific fashion, and may detect changes in the aspects studied.

Generic instruments are developed and applied to reflect the life of patients in a wide variety of populations and include such aspects as function, dysfunction and physical and emotional well being. Among the generic instruments is the WHOQOL that assesses the health profile. It is easy to administer and understand and is widely used in the literature. The WHOQOL is, therefore, an assessment of a multi-dimensional concept incorporating the individual's perception of health status, psycho-social status and other aspects of life.

Various instruments have been cited in the literature which allows assessing Health-Related Quality of Life (HRQOL), example: WHOQoL-BREF, SF-36 tool (The Medical Outcomes Study 36-item Short- Form Health Survey), QWB-SA (Quality of Well-Being Questionnaire), EuroQoL (European Quality of Life) or EQ-5D (Euro-QoL 5-Dimensions). These allow us to evaluate the impact of a chronic illness on the patient's life and offer a type of treatment outcome based on the individual's own perception of their general health condition (Ddiniz et al., 2006). In this study, the questionnaire which will be used has been developed by the WHOQOL-BREF in 1996, and concentrate on how the participant feel about his/her quality of life, health or other area of his/her life.

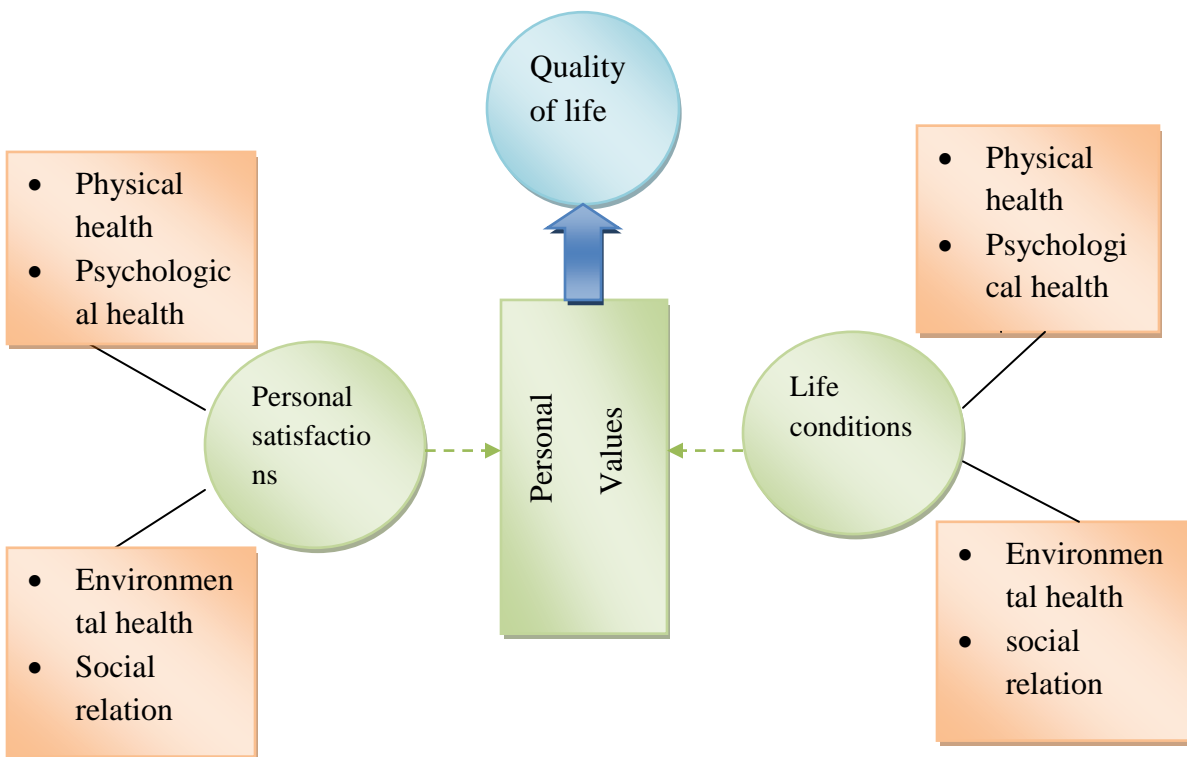
### **2.2.4 Theoretical framework**

The conceptual framework used in the presented study has been adopted by Felce and Perry, (1995). Quality of life model adapted to this current study has been defined as life



satisfaction and life condition where life satisfaction and life condition take account of person values in four different domains of physical health, psychological health, environmental health, and social relation. Those domains has been viewed for wellbeing in a number of life domains: health, work, learning, living situation, leisure, family relation, family life, friendships, safety of self and material comfort (Felce & Perry, 1995 p.6). According to the Felce and Perry, quality of life it important assessment requires a combination of subjective well-being and social indicators approaches.

### 2.2.5 Conceptual framework



**Figure2. 1Quality of life defined as life satisfaction and conditions (Felce and Perry, 1995).**

### Physical wellbeing domain

Physical wellbeing constructed by the subjective and objective reporting of presence of such as pain and discomfort from diseases complication, at which level the daily living dependence on medication treatment, the satisfaction of the energy needed to perform some activity of daily living and fatigue that can be challenge to the desire of performance,

mobility capacity for getting around, satisfaction of rest and sleep, satisfaction of level which activity of daily living performance that planned and desired and the perceived of work capacity to fulfill role assigned.

### **Psychological wellbeing domain**

Psychological wellbeing constructed by evaluating the level of affected cognitive functions, the perception of body image and appearance, the both positive and negative self concept and self esteem and the affected positive and negative mood also spirituality.

### **Social relationships wellbeing domain**

In social relationships domain as it refer to the tools used were assembled the personal relationship where area such as family support, social contact, sexual activities and ability to look after of family were assess.

### **Environment wellbeing domain**

Environment domain were constructed by personal freedom in life, judgment of quality of home environment, physical safety and security, perception and capacity of financial resources to meet needs, involvement in opportunities for recreational and leisure activities, opportunities of new information and skills concerning the diseases condition, accessibility and quality of health and social care and transport from home to the healthcare setting.

## **2.3 EMPIRICAL LITERATURE**

### **2.3.1. Non Communicable Disease and Quality Of Life**

#### **2.3.1.1 Diabetes mellitus**

Diabetes is now a serious global health problem for the populations of developing countries. Marginal groups and underprivileged communities in developed countries now face the greatest risk in this 21<sup>st</sup> century worldwide. Globally, incidence of diabetic mellitus is trending to grow rapidly. In the year 2010, it was estimated that the prevalence among adults people with diabetes reached at 6.4% , affecting 285 million adults, and by 2030, it is projected to be 7.7% with 439 million adults affected (Ayah et al. 2013). In 2015 prevalence was 3.5 % of all diabetes diagnoses (WHO, 2015). Diabetes is frequently accompanied by serious health disability and complications of long term like cardiovascular diseases, nephropathy, retinopathy, infectious diseases and neuropathy (Atherton 2015).

Diabetes care mostly consists of self care and diabetes patients themselves have to control their blood glucose levels by checking their blood glucose levels and by balancing their food intake, physical activity and their intake of oral hypoglycemia medication and/or insulin injection. The general treatment objective is to avoid acute and chronic complications, while maintaining a better quality of life. Several studies have revealed that the quality of life in diabetes is diminished as compared to individuals without diabetes. The presence of diabetic complications has an extra negative impact on quality of life (Schram et al. 2009).

The study conducted in Kenya by Genga et al. 2014 to assessed the perceived Health related QoL of 139 patients diagnosed with diabetes attending the diabetic clinic Kenyatta National Hospital. The majority of study participants reported a good QoL score on the WHOQoL-BREF scale. The age, level of income had statistically significant association with overall QoL score, social domain and psychological domain. Another cross section analytic study conducted in family medicine outpatient of Suez Canal university hospital in Ismailia city, Egypt by Ibrahim et al. 2016 on 143 patients diagnosed with diabetes type 2 by using structured interviewing and WHOQoL-BREF tools. It results revealed that the participants had presented lower QoL in physical domain and moderate QoL in psychological, social relationships and environment domains. Obesity, cigarette smoking, physical inactivity and poor glycemia monitoring were factors related to lower QoL and the researchers recommended health education program on lifestyle modification and systematic measures to improve QoL for patient with diabetes type 2.

### **2.3.1.2. Hypertension**

Hypertension is the most common non communicable disease that has been increasingly recognized as worldwide public health problem in lower and middle income and developed countries with prevalence of 22% in 2014 as reported by Global health report (WHO 2014). It is also the most significant high frequency and modifiable risk factors for cardiovascular, cerebral-vascular and renal disease (Kearney et al. 2004). It has been identified as the leading risk factor for morbidity and mortality, also it is graded among the three first as a cause of disability-adjusted life-years (Kearney et al. 2005).

The high prevalence and high incidence of hypertension worldwide has contributed to the present pandemic of cardiovascular disease. Cardiovascular disease over a fairly short period is mainly attributable to changes in environmental risk factors, such as nutritional and physical activity (Pereira et al. 2011).

According to Carvalho et al (2013), in the observational cross-sectional exploratory study of 246 subjects was conducted to evaluate QOL in patients with hypertension compared to the general population. By using SF-36 tools, the result demonstrated that general population (non-hypertensive individual from community) achieved better QOL than patient with hypertension in all domains where they obtained higher scores in all variables. Also, according to Trevisol et al (2011), in Meta analysis study of HQOL that used using SF-36 in physical and mental components in three dimensions where the author compared scores between hypertensive individual and non-hypertensive individual the results showed that the quality of life of participant diagnosed with hypertension was poor than non hypertensive participants.

The study conducted by Oza et al. 2014 to determine QoL in 269 patients diagnosed with hypertension attending outpatient medicine department of tertiary care by using MINICHAL and WHOQoL-BREF tools during two month were founded that women had significant poorer QoL compared to men and were observed statistically significant between age, gender, duration, number of symptoms and QoL. Another Similarly descriptive cross section study conducted by Bhandari et al. in 2016 with 237 participants diagnosed with hypertension attending outpatient clinic of Manmohan Cardiothoracic vascular and transplant centre by using SF-36 questionnaire to assessed QoL showed that the mental component score mean was more affected than physical component score. The statistically significant association was observed between age, sex, marital status and physical component score. Also statistical significant associations were found between age, education, marital status and mental component score.

Other different studies were combined the participants of these two chronic non communicable disease where the India observational cross section study carried out in the primary care mobile clinics in ten villages of Devanahalli Taluk, Bangalore by Khongmdir et al. 2015 were assessed QoL on one hundred patients diagnosed with diabetes and hypertension by using WHOQoL-BREF. The study results was showed that the most of

participants had reported an average of poor QoL and among four domain were observed that the psychological domain was most affected and social relationships domain was least affected compared to other. Also higher age was statistically significant associated to poor QoL and there were no statistically significant between socio- demographic and four domains. Additional similarly cross section study from India of Mann et al. 2016 conducted in outpatient internal medicine Gian Sagar Medical College and Hospital, Patiala for two months on 85 patients diagnosed with diabetes and hypertension. The participants were divided in two groups, group 1 was the patients with hypertension and diabetes and group 2 was patients with hypertension. By using SF-36 and WHOQoL tools among those two groups the results showed that both groups had reported compromised QoL but patient with diabetes and hypertension of the group 1 were reported good QoL than the group with hypertensive patient where group 1 had higher scores in the most of parameters of SF-36 and WHOQoL-BREF score.

### **2.3.2 Factors predicting Quality of Life**

The main risk factors for hypertension include but not limited to: heredity, age, obesity, stress, sedentary lifestyle, alcohol consumption and gender. Other factors, both social and physical, are also emphasized not as causes of hypertension, but because they are often associated with it (low educational level, high cholesterol and diabetes mellitus (Arslantas et al., 2008). Thus, because of its close correlation with lifestyle, hypertension can be prevented, attenuated or treated by adopting healthy habits. With the increased survival of patients with chronic and/or severe diseases mostly due to their slow progression, Quality of Life (QoL) has become more significant and the importance of its assessment has been recognized and incorporated to clinical trials (Carvalho et al. 2013).

## **CHAPTER III: METHODOLOGY**

### **3.1 INTRODUCTION**

This chapter provides a clear description on the area where the study were been conducted, the design, study population and the sampling technique. The chapter also describes the data collection procedures, and the methods used in the data analysis, the last paragraph of this chapter were focused on the limitations and ethical consideration.

### **3.2 STUDY DESIGN**

This was descriptive cross sectional study which refers to data collected by observing many subjects (such as individuals, firms or countries/regions) at the same point of time, or without regard to differences in time.

### **3.3 STUDY APPROACH**

This study was quantitative non experimental.

### **3.4 STUDY AREA**

This study was conducted in internal medicine outpatient Department at University Teaching Hospital of Kigali (CHUK/UTHK) and Rwanda Military Hospital (RMH). Both hospitals are among national referral hospitals and are located in Kigali the capital of Rwanda.

University Teaching Hospital of Kigali it has the vision of become excellent in Africa and mission of providing quality care and teaching. It located in kigali city, NYARUGENGE district, NYARUGENGE sector and it situated in few meters from serena hotel. It serve as public health institution, it was build in 1918, from when it was served as health center. In 1965 becoming the hospital of Kigali. UTHK was awarded a status of a referral and teaching hospital on 7/12/2000. It has a capacity of 513 bed and 786 total health care staff.

Rwanda Military Hospital is located in Kicukiro district, Kanombe sector. It has the vision of becoming the best quality and tertiary care provider and to grow to provide quality health care for high government officials in the country and beyond. Its mission is to provide quality tertiary healthcare to the general population and military personnel. This hospital started in 1968 and it was serving as referral hospital for militaries, before it was called Kanombe Military Hospital from its inception in 1968. After genocide against Tutsi, Kanombe Military Hospital was serving as Kicukiro District hospital. From 2013, and Kanombe military

hospital became Rwanda military hospital and restarted serving as referral hospital. Currently, it has 265 inpatient beds and 580 total health care staff.

### **3.5 STUDY POPULATION**

The population of this study is constructed by diabetics and hypertension patients. In the exploration step of this study it was estimated that 273 patients attend the different hospital in one month (CHUK=173 participants, RMH=98 participants). .

### **3.6 SAMPLING STRATEGY**

A systematic random sampling technique was used to ensure the equal chance of selection among participants. The sampling frame was the daily appointment in the agenda where diabetics come on Thursday and hypertensive patients come on Tuesday. Participants were randomly selected by leaving out 1 of the 2 consecutive patients coming for consultation of defined day of the week for diabetes and hypertension at any of the two hospitals stated in the study.

### **3.7 SAMPLE SIZE**

The study sample was calculated by using the formula used to estimate sample size with the finite population. Then the student researcher selected a sample of 160 participants. The following formula was used to get representative sample number of participants in order to be able to infer the results. Confidence interval 95%

$$n_o = Z^2 pq / ME^2$$

$$nf = n_o / [1 + (n_o / N)]$$

$$nl = nf (1 + ME^2)$$

Where:  $n_o$  is correction factor 1,  $Z$  stands for Z-score,  $p$ =probability of being selected,  $q$ =probability of not being selected,  $ME$ = margin of error,  $nf$ = correction factor 2, and  $nl$  is sample size (Israel , 2013. p3).

Sub-sample size called  $nk = (nl \times Nk) / N$

Where  $nl$  is the sample size,  $Nk$  stratum population and  $N$  the study population.

$$n_o = (1.96 * 1.96 * 0.5 * 0.5) / (0.05 * 0.05)$$

$$nf=384.16/1+(384.16/273)$$

$$nl=159.6*[1+(0.05*0.05)]$$

nl=159.58 sample size will be 160 patient

After the above formula the sample size gotten was 160 participants from entire population and the details were presented in table below.

**Table 3.1 Distributions of sample size participated in the study according to the hospital and disease**

<b>Hospital</b>	<b>Recorded data/Population</b>	<b>Sample size</b>
<b>CHUK</b>	<b>175</b>	<b>102</b>
	<i>Diabetic</i>	<i>145</i>
	<i>Hypertensive</i>	<i>30</i>
<b>RMH</b>	<b>98</b>	<b>58</b>
	<i>Diabetic</i>	<i>76</i>
	<i>Hypertensive</i>	<i>22</i>
<b>TOTAL</b>	<b>273</b>	<b>160</b>

### 3.8 INCLUSION CRITERIA

The study included patients and adult over 18 years old and who consult for their follow-up and have been diagnosed with hypertension or diabetes as chronic non communicable disease at selected area and consulting Internal Medicine outpatient clinic in the period of data collection.

### 3.9 EXCLUSION CRITERIA

This study excluded patients who were under 18 years old and who still depend on the parents even if followed at selected area and who were consulted in other department which are not Internal Medicine Outpatient clinic. Also it excluded patient diagnosed as acute



hypertensive and diabetes and mental challenge. Patients with chronic renal disease or end stage renal disease, history of heart or respiratory failure, recent myocardial infarctus (MI), shock, liver disease, chronic alcohol use, pregnant females were excluded from study for their health status.

### **3.10 DATA COLLECTION METHOD AND PROCEDURE**

The data were collected from 15 March to 2<sup>nd</sup> May, 2017. Data were collected by using The WHOQOL-BREF questionnaire short version which was adopted and socio-demographic questions were included. Medical records file of patients was used to identify patient medical diagnosis information and frequencies of visit. Then the patient explained the aim of the study and asked for consent to participating and provides information for the study. After accepting the participation in the study and signing the consent form, the participants were explained about the nature of study questionnaire. The participants were administrating generic questionnaire and self reporting by scoring the different 5 options of the questions and for the illiterate participants were helped by interviewed self reporting. The five opinion of questionnaire range from 1 to 5 Likert scale of each question was expected to respond by participants' opinion, based on their life over previous four week. Higher score indicate good quality of life. The score  $\leq 45$ : lower QoL, score= 46-65: moderate QoL and score  $>65$ : high QoL, these value of scoring of quality of life categories were adopted from reviewed studies (Ibrahim et al. 2016,p153) and were used in this current study. The data were collected during day duty and on specific day (Tuesday and Thursday).

#### **3.10.1 Instrument**

The WHOQoL-BREF generic questionnaire contains 26 items was developed in 15 international field centers to achieve cross-culturally appropriate assessment tools: two questions from the Overall QoL and General Health and 24 questions divided into four specific domains: 1. Physical Health which contains seven items, 2. Psychological Health which contain eight items, 3. Social Relationships contain three items, and 4. Environmental Health contain eight items. The responses of each question are rated on a 5-point Likert scale and scored from 1 to 5. Raw scores in each domain were transformed to a 4–20 score according to guideline (WHO, 2012). The mean score of questions in each domain is used to calculate the domain score and finally they transformed linearly to a 0–100-scale, where 100

is the highest and 0 the lowest health related quality of life. The negatively-worded items had reversed scores. Some socio-demographic questions were added according to the researcher interested data needed (age, sex, education level, marital status, resident area, type of insurance, job). To facilitate the participants, the questionnaire were been translated from English languages to Kinyarwanda and the participants have allowed to choose the language in which they were most comfortable responding.

### **3.10.2 Instrumentation validity and reliability**

The reliability and validity of the WHOQOL- BREF domains were assessed using Cronbach's Alpha in different studies where a cross section study conducted in Iran among 1847 with type 2 diabetic mellitus by Gholami A et al, 2013. To evaluate this patient QOL by using Iranian version of WHOQOL BREF the Overall Cronbach's alpha was 0.93, total mean score was 12.18. The lowest score was found in psychological domain with 11.93 and highest in social domain with 12.66. another study conducted by Naveet w. et al ,2006 in Indian among 68 patients with HIV and AIDS internal consistency between the four domains of the WHOQOL-Bref instrument were found with Cronbach's  $\alpha=0.91$ . This is international standardized questionnaire which validity were tested and Cronbach's alpha was applied to examine the internal consistency of WHOQoL-BREF questionnaire in Rwanda context.

### **3.10.3 Pilot study**

Before started the study, the pilot study was conducted to test reliability of WHOQOL-BREF instrument in Rwanda context. Pilot study was conducted in 16 which is one teen of entire sample size patients (10 patients with diabetes and 6 patients with hypertension) of NCDs from Kibagabaga hospital outpatient clinic. The aim of the pilot study was to ensure and to measure the understanding of participant also to ensure acceptability of questionnaire, language clarity and reliability. The sixteen patient which was one teen of the 160 study sample size tested Cronbach's alpha was 0.90, total mean score were 13.6. After pilot study, the tool was adapted with all 26 items.

### **3.11 LOGISTICS AND ORGANIZATION STRUCTURE**

#### **Distribution responsibilities**

The Principal investigator prepared the study, was in charge of collecting data for other steps and provided coordination of research activities day by day.

Research Team was composed by 2 voluntary nurses of CHUK and RMH after being explained the questionnaire to facilitate in the data collection process. This study was supervised by indicated lectures

### **3.12 DATA ANALYSIS**

Various methods have been proposed in the literature for studies where the data was collected at one point in time during a given period. This section was focused on two different parts in data analysis, these include, exploratory data analysis (descriptive statistic) and testing models (inferential statistic). This study includes one main outcome that includes: Quality of life level among participant patients

#### **Exploratory Data Analysis (EDA)**

The descriptive analysis of the data were performed to all variable, also mean and standard deviation was calculated for continuous variables (dependent variable and some of the independent variables). Table and line graphs were used for preliminary data analysis.

#### **Inferential Analysis:**

To assess the association between WHOQoL quality of life with socio-demographic selected variables, bivariate analysis was conducted for correlation tested and backward multiple linear regression test was used to tested association between independent variable and continuous dependent variables (demographic variables: age, marital status, education level and job type) which have three or more levels and four domains of quality of life and overall general health question of WHOQoL-BREF quality of life, which is a dependent continuous variable and the data were normal distributed.

The analysis of this study was conducted in SPSS version 20 and an expert in biostatistics was consulted during the data analysis process whenever necessary.

### **3.13 LIMITATION OF THE STUDY**

The limitations during the course of this study were highlighted, these include: uncontrolled confound from the bias which were arise from the fact that the patient was perceive the

quality of life in different ways based on the social economic status. The tools used in this study where the patients were required to self-administration and self reporting was not appropriate for the type of patient that were available even regarding the varying levels of education therefore it was difficult to gain the assistance. This is cross section study due to time limitation of data collection. The mixed of diseases in this study can influenced each other.

### **3.14 ETHICAL CONSIDERATIONS**

This study proposal was submitted to the University of Rwanda College of Medicine and Health Sciences Institutional Review Board for approval and ethical clearance. Clearance and permission to conduct the study was obtained and the researcher student requested the permission from the ethical committee at each of hospitals involved in this study to use the records of patients who were seen in the cited departments. Informed consent containing all elements was addressed to all participants through a restricted written form and they were asked to be freely to sign the consent before participating in study. Anonymity and privacy of all collected data was ensured by using codes during data collection to keep individual anonymity and no names were used to enter or analyze the data. This study was designed to prevent prejudice directed at any of the participants. They were free to withdraw from the study at anytime.

The participants have the right of self determination to participate in the research. The results are used for academic purposes. Information regarding any specific patient participating in the study was only shared among members of the research group. The collected data were been transferred and stored into a secured computer. Also all the data forms were kept in archives.

Before recruiting participants, each time, the researcher explained to the patients the objective of this study and let them know that the participation is voluntary; explanation was been provided in each of the two languages English or Kinyarwanda. The participants were given time to ask questions of their concerns and understand the process. They were provided with an informed written consent form, which was in patient appropriate language and the patient was been included if only a voluntary consent is obtained and the form signed by the patients themselves or guardians authorized by patients.

### **3.15 DISSEMINATION OF RESULTS**

The results of the study will be available at CHUK and RMH in the Department of internal medicine the authority for implementation of recommendations deducible from this study, at the Library of the University of Rwanda. The results of current study planed to be publishing in an international nursing journal.

## **CHAPTER IV. RESULTS PRESENTATION AND INTERPRETATION**

### **INTRODUCTION**

Results section presents a description of socio-economic and demographic characteristics of the participant along with statistical test for association (bivariate and multiple regression) between socio-demographic and WHOQoL-BREF. Some findings presented by using table and other presented on figures.

#### **4.1. CHARACTERISTIC OF PARTICIPANTS**

According to socio-demographic **table 4.1** shows that the one hundred and sixty patients were recruited and all completed the questionnaire. More than half of the respondents were females 109 (68.1%) while male were 51 (31.9%). The youngest of responded was 20 years old while the old adult was 80 years old, the mean age 54.70 (SD: 13.84) middle age group (36-65) comprised the majority (66.3%) while young adult (18-35) were minority (12.5%). A large percentage of the respondents were married (54.4%) compared to those who were single (10%) or divorced (4.4%) or widowed (31.3%). Majority of them were educated (85.7%) of which (41.3%) were educated to the primary level, (38.8%) had secondary level and (5.6%) had a university degree.

All of them (98.8%) had some form of health insurance, of which CBHI/MUSA was the most popular (70%). Majority of them were farmers (39.4%) while the unemployed/ working in non organized sector formed a non negligible percentage (23.8%). And the majority of participants were patients with diabetes (81.3%).

**TABLE4. 1: socio-demographic characteristics of participants (n=160)**

<b>Characteristics</b>		<b>Frequency</b>	<b>Percent</b>
<b>Sex</b>	Male	51	31.9
	Female	109	68.1
<b>Age</b>	Young adult(20-35)	20	12.5
	Middle aged(36-65)	106	66.3
	Older adults(66-80)	34	21.3
<b>Marital status</b>	Single	16	10
	Married	87	54.4
	Divorced	7	4.4
	Widower	50	31.3
<b>Education level</b>	Illiterate	23	14.4
	Primary	66	41.3
	Secondary	62	38.8
	University	9	5.6
<b>Job type</b>	Farmer	63	39.4
	Employee	14	8.8
	Businessman	28	17.5
	Unemployed	38	23.8
	Retired	17	10.6
<b>Assurance</b>	CBHI/MUSA*	112	70
	RSSB*	24	15
	MMI*	10	6.3
	Private	2	1.3
	Others (BK, Radiant, etc)	12	7.5
<b>Disease</b>	Diabetes	130	81.3
	Hypertension	30	18.8
Age : (Mean, SD)		54.70 (SD: 13.84)	

CBHI/MUSA\*: Community Based Health Insurance ( Mutuel de Santé), RSSB\*: Rwanda

Social Security Board MMI\*:Rwanda Medical Military Insurance.

## 4.2 OVERALL QUALITY OF LIFE AND GENERAL HEALTH

According to the result presented on **table 4.2** about one fifth (19%) of the study respondents was rated their quality of life as good whereas a sixth (16%) reported poor quality of life. About two fifth (39%) were satisfied with their health status and nearly one fifth (18%) were dissatisfied. The overall quality of life and general health mean score was  $M=52.8$ ,  $SD= 16.5$ .

**TABLE4. 2: overall quality of life and general health perception of participants in general n=160**

<b>Quality Of Life</b>	<b>Frequency</b>	<b>Percent</b>
Very poor	1	.6
Poor	24	15.0
Neither poor nor good	105	65.6
Good	27	16.9
Very good	3	1.9
<b>Health Satisfaction</b>	<b>Frequency</b>	<b>Percent</b>
Very dissatisfied	11	6.9
Dissatisfied	18	11.3
Neither satisfied nor dissatisfied	68	42.5
Satisfied	57	35.6
Very satisfied	6	3.8
	<b>Mean</b>	<b>SD</b>
<b>Overall general health</b>	52.8	16.5

SD: standard deviation



**TABLE 4.3 Overall quality of life and general health perception of participants according to the diseases condition**

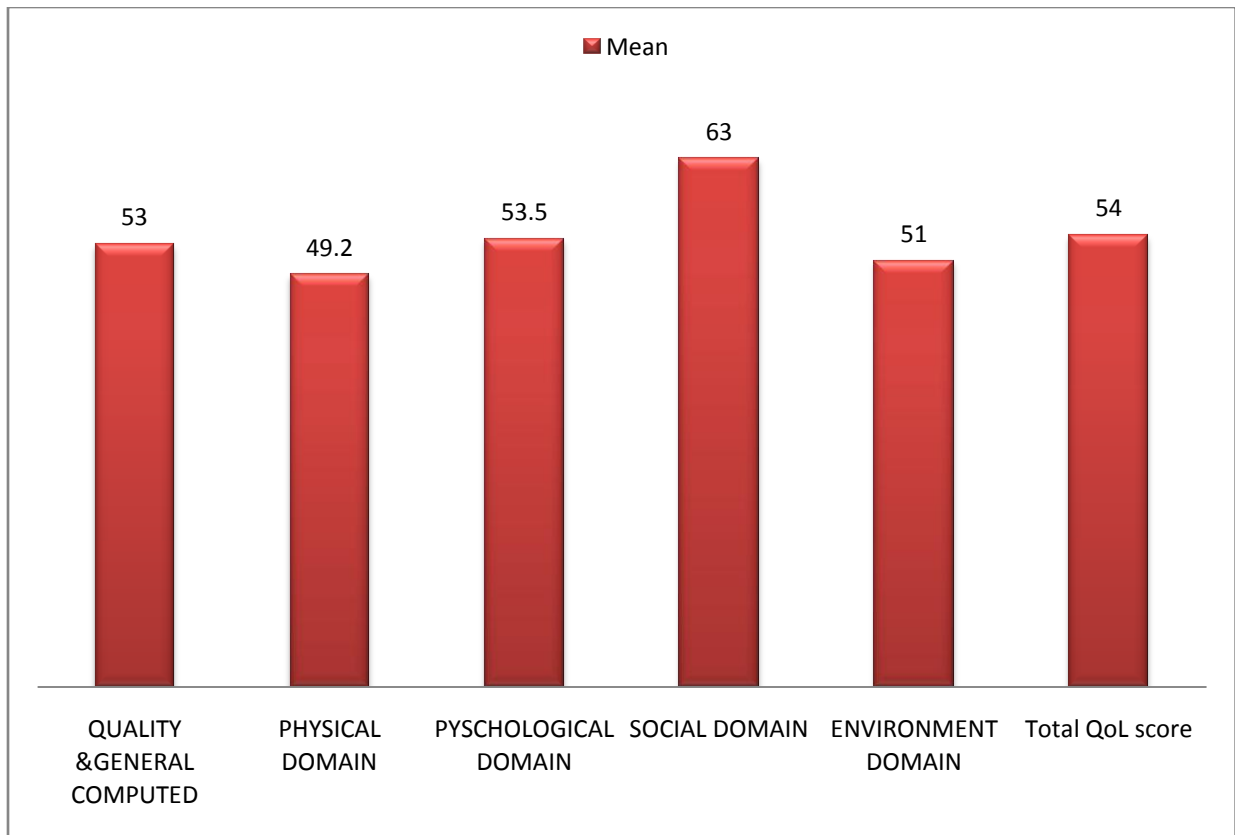
	<b>Diabetes</b>	<b>Hypertension</b>
<b>Quality Of Life</b>	<b>Frequency (%)</b>	<b>Frequency (%)</b>
Very poor	1(0.8)	0(0)
Poor	18(13.8)	6(20)
Neither poor nor good	86(66.2)	19(63.3)
Good	23(17.7)	4(13.3)
Very good	2(1.5)	1(3.3)
<b>Health Satisfaction</b>	<b>Frequency (%)</b>	<b>Frequency (%)</b>
Very dissatisfied	9(6.9)	2(6.7)
Dissatisfied	15(11.5)	3(10)
Neither satisfied nor dissatisfied	55(42.3)	13(43.3)
Satisfied	45(34.6)	12(40)
Very satisfied	6(4.6)	0(0)

*Diabetes participants n=130; Hypertensive participants n=30*

#### **4.3 COMPARISON TRANSFORMED WHOQOL- BREF TOTAL SCORES AND FOUR DOMAINS**

As display on the figure 4.1 show that the lowest mean among WHOQoL-BREF domains and total QoL score was observed in physical domain (49.21) compare to highest satisfaction of quality of life in social domain (63.02).

Regarding quality of life domain (table 4.3) current study revealed that more than half (55%) was rated the high QOL in social relationship domain among of them patients with hypertension (60%) counted a big percentage according to table 4.3.1 whereas more than one third (36%) were rated lower QoL in physical domains where the patients with hypertension contribute more (40%).



**Figure 4. 1. Domain score**

**TABLE 4.4: Participants quality of life categories according to quality of life domain (n=160)**

Quality of Life Domains	Categories		
	Frequency (%)		
	LOWER	MODERATE	HIGH
Overall and general QOL	33(20.6)	100(62.5)	27(16.5)
Physical domain	59(36.9)	79(49.4)	22(13.8)
Psychological domain	52(32.5)	74(46.3)	34(21.3)
Social relationship domain	27(16.9)	45(28.1)	88(55)
Environment domain	51(31.9)	87(54.4)	22(13.8)

score ≤ 45: lower QoL; score = 46-65: moderate QOL; score > 65: high QOL

**TABLE 4.5: Participants quality of life categories according to disease condition (Diabetes disease n= 130; Hypertension n=30)**

Quality Of Life Domains	Diabetes			Hypertension		
	Frequency (%)			Frequency (%)		
	Categories			Categories		
	LOWER	MODERATE	HIGH	LOWER	MODERATE	HIGH
<b>Overall QOL and General health</b>	26(20)	80(61.5)	24(18.5)	7(23.3)	20(66.7)	3(10)
<b>Physical domain</b>	47(36.2)	65(50)	18(13.8)	12(40)	14(46.7)	4(13.3)
<b>Psychological domain</b>	42(32.3)	62(47.7)	26(20)	10(33.3)	12(40)	8(26.7)
<b>Social relationship domain</b>	23(17.7)	37(28.5)	70(53.8)	4(13.3)	8(26.7)	18(60)
<b>Environment domain</b>	41(31.5)	70(53.8)	19(14.6)	10(33.3)	17(56.7)	3(10)

Score ≤ 45: Lower QoL; Score = 46-65: Moderate QoL; Score > 66: High QoL;

## 4.4 ASSOCIATION OF SOCIO-DEMOGRAPHIC VARIABLE WITH QUALITY OF LIFE WHOQoL

### 4.4.1 Correlation matrix for WHOQoL domains and selected socio-demographic tables

Bivariate analysis test was conducted to determine the association between demographic factors and WHOQoL-BREF quality of life. The results were summarized in the table 4.4 shows that there was significant relation between physical domain and some different independently variable age ( $p < 0.001$ ) and marital status ( $p < 0.05$ ). Psychological domain was significantly correlated with age, marital status and education ( $p < 0.05$ ). Summarized data in table 4.4 shows that only age ( $p < 0.05$ ) was significantly correlated to social relationships domain and there wasn't any significant predicting on environment domain as it showed in table. General overall health was significantly correlated with education level ( $p < 0.001$ ) as summarized in table 4.4. Whereas WHOQoL-BREF total score was statistical significantly correlated with age ( $p < 0.001$ ) and education level ( $p < 0.05$ ).

**TABLE4.6: Correlation between quality of life domain and socio-demographic characteristics (n=160)**

	Overall General Qol	Physical Domain	Psychological Domain	Social Domain	Environment Domain	Total Qol
<b>Age</b>	-.118	-.329**	-.203*	-.183*	.016	-.209**
<b>Sex</b>	-.066	-.069	-.082	.032	.062	-.029
<b>Marital status</b>	-.121	-.164*	-.157*	-.130	.058	-.133
<b>Education level</b>	.216**	.095	.171*	.109	.070	.167*
<b>Job type</b>	.011	-.072	-.012	-.076	-.025	-.047

\*\* : Correlation is significant at the 0.01 level (2-tailed); \* : Correlation is significant at the 0.05 level (2-tailed).

#### 4.4.2 Backward multiple linear regressions of significant predictors associated with quality of life

The results summarized in table 4.4.1 demonstrate that responded age were statistically significantly ( $p < 0.05$ ) predicting total QoL and all quality of life domains except environment domain. Education levels were statistically significantly only in overall general QoL. Other socio-demographic factors such as sex, job, and marital status were not statistically significantly predicting any quality of life domains and total QoL.

**TABLE4.7: Backward multiple linear regression analysis of predictors associated with QOL**

QOL domain	Variable	Standardized Coefficients Beta	95.0% Confidence Interval for B		t	Pvalue
			Lower Bound	Upper Bound		
Physical domain	Age	-.329	-.559	-.212	-4.382	.000*
	Marital status	-.017	-2.878	2.354	-.198	.843
Psychological domain	Age	-.203	-.408	.056	-2.603	.010*
	Marital status	-.046	-3.457	2.062	-.499	.618
	Education level	.122	-.751	5.621	1.510	.133
Social domain	Age	-.183	-.486	-.041	-2.341	.021*
Overall general QoL	Education level	.216	1.305	7.676	2.784	.006*
Total QoL	Age	-.209	-1.740	-.265	-2.686	.008*
	Education level	.116	-3.709	23.034	1.427	.155

\*Significant at p value <0.05 level (2-tailed); \*\*Highly significant at p value <0.01 level (2-tailed).

## **CHAPTER V. DISCUSSION**

### **5.1 INTRODUCTION**

To our knowledge this may be one of studies in Rwanda using WHOQoL-BREF among Diabetics and Hypertension as chronic non communicable diseases. This study was conducted with target to access on information regarding quality of life among patient with non communicable diseases, where the responders were diabetics and hypertensive patient attending Kigali refers hospital. Therefore this discussion part was based on studies objectives and research questions.

### **5.2 DESCRIPTION OF SOCIO- DEMOGRAPHIC CHARACTERISTICS**

Concerning gender of current study participants more than half were female contrary to the study of Khongmdir et al, (2015) founded that the majority about three fifth were male and agreed with study of Gusmai et al, (2015) on review of six studies reveals that the majority nearly less than three fifth were female and another study of Shashidhara et al, (2015) revealed that nearly less than fourth third were female. This could explained by the fact that the women consulted frequently and utilization of healthcare service than men.

The current study reveals that a half were ranged in the middle age, approximately more than three fourth were educated to the primary level and concerning job type more than one third was farmer these explained by the fact that the majority of patients exploited these healthcare service use community based health assurance and the farmer are than more half for total Rwanda populations also disagreed with Khongmdir et al, (2015) which in his study founded that the majority about nearly half were illiterate.

Regarding marital status, the current study showed that a half of responded were married these agreed with study of Khongmdir et al, 2015 showed that in his study the majority less than a hundred were married also agree with Shashidhara et al, (2015) study showed the result that the majority more than third two were married

### **5.3 DESCRIPTION OF QUALITY OF LIFE IN PATIENT WITH NON COMMUNICABLE DISEASE**

The current study reveals that concerning overall quality of life about one fifth were rated as good while sixth rated as poor. These could be explained by the mode of self reporting tools. These findings supported with the previous study of Genga et al. (2014) who found that two fifth of the study group had rated their quality of life as good while about fifth rated their QoL as poor. These results agree with Baba Issa, (2006) who founded that one seven rated their quality of life as poor while one five rated as good. These results Coming up in accordance with previous study of Fatma El et al, (2016) who reported that less than half were rating their quality of life as good whereas about more two fifth rated as poor and Bakry, (2006) who found that nearly two thirds of the study group had their quality of life rated as good. Contrary to Khongsdir et al, (2015) who reported that about quarter of study participants were rating their quality of life as good while near a half were rated as poor.

Regarding health satisfaction about two fifth of them were reported satisfied whereas nearly fifth dissatisfied about their health. This findings coming up in accordance with Khongsdir et al, (2015) who founded nearly two fifth were satisfied by their health while less than one third were dissatisfied. These agreed with Ibrahim et al. (2016) who reported that two third of them were rated as satisfied with their health while slight more than one fifth were dissatisfied. Contrary with Baba Issa, (2006) who reported that one third were dissatisfied whereas less than eighth were satisfied.

Concerning domain quality of life more than half experience a good quality of life in social relationship domain with highest mean score and about one third experience lower quality of life in physical domain with lowest mean score and psychological domain. These results supported with the previous study conducted by Mann et al. (2016) who reported that the mean score in social relationship was high than physical domain who had lower mean which could be explained by culture aspect and would promote their well-being. These agreed with the study of Ha et al. (2014) revealed that the highest mean score of quality satisfaction founded in social relationships and lowest in psychological domain. This findings however agreement with form of that a previous study by Melchiors et al. (2008) which reported that social relationship domain had the highest mean score while environment domain had lowest



score which mean their participants were experienced high quality of life in social domain and lower in environment domain. Also the current study findings were dissimilarly to study of Rose & Shashidhara,(2015) who founded that compared to other domain the respondents in psychological domain were having the lower quality of life while their had experienced the high quality of life in environment domain. Contrasted to the study of Asadullah et al. (2012) revealed that minimum score were observed in social relationships and maximum score was in environmental domain.

#### **5.4 ASSOCIATION OF SOCIO-DEMOGRAPHIC CHARACTERISTIC AND QUALITY OF LIFE AS MEASURED BY WHOQOL-BREF**

As already observed by other studies, the current study found that physical, social relationships, psychological domain were statistically significantly correlated with age, marital status and education level while also general overall health and total quality of life score were found significant correlated with education and age and there was no significant correlation were founded in environment domain with any selected socio-demographic factors while job and sex were not predicted to any QoL domains. The correlation between age and psychological domain had already been observed in the study of Melchiors et al. (2008). These results agreed with Gholami, (2013) who have observed statistical significant correlation between all domains mean score and socio-demographic factors. Contrasted to Baiyewu,(2006) study findings showed that overall general health, psychological and social domain were statistical significant to occupation.

The present results study showed that age was statistically significant difference predicting the QoL in physical and psychological domain score. These findings could be explained by their worse situation due to the disease another explanation was that the more you became elder the more physical capacity decreased and physiological and function changing. Similar to Bhandari et al. (2016) were found that age and marital status was predictor of physical component explained the impact as lower quality of life in physical domain by increase in age and not cohabiting with partner while increase in age, live without partner and not increase in education level affect psychological domain or mental component guided to lower quality of life. Also Zulkefli et al. (2012) were found that the elder age and being single predicted lower physical health related quality of life while in women elder age predicted

lower mental health component. Differed with Melchioris et al. (2008) who had reported that age was not predicted to any health related domain.

Concerning overall general health and total quality of life score, there were statistical significant in age and education level. In previous study of Gholami, (2013) were found that marital status and education predicted total quality of life. The same as Carvalho et al. (2012) study results showed that education level were among predicted of health related QoL where higher level of education among study respondents predicted higher health related QoL score domains. Contrary to Khongsdir et al, (2015) study which show that among age, marital status, low income and education as factors only age were predicted poor quality of life of patients.

### **STRENGTH AND WEAKNESS OF STUDY**

Some of strength of this study was that used WHOQoL-BREF the tools were tested and developed in a wide range of languages for use in different cultural settings (including sub-Saharan Africa), and yields comparable scores across cultures and were assessed two diseases which are the big burden to the country and global level. The data will be exploited to address the QoL issues for these specific patients.

This study was cross section and due to time limitation and the objective of the current study was not analyzed separately deeply the QoL of participants at is two non communicable diseases and the population was not enough represented in the sample it could not be possible to infer or generalize the results. Direct comparison of the findings to local study were difficult as there no previous studies assessed QoL in patient with these two non communicable disease using WHOQoL-BREF.

This study support previous study reports that QoL of patients with these two non communicable diseases (hypertension and diabetes mellitus) was moderately good as indicated by total QoL mean score. The Lower QoL was associated with increasingly of age and decreasing in education especially in physical and psychological health.

## **CHAPTER VI: RECOMMENDATION AND CONCLUSION**

### **6.1 CONCLUSION**

The current study findings indicated that the quality of life and health satisfaction of patients with chronic non communicable diseases (diabetes and hypertension) was moderately and high satisfaction for their social relationships QoL and lower with their physical QoL. There were socio-demographic factors such as low education level and aging that predicting lower total quality of life especially in physical, social relationship and psychological health. Further many different researches with powerful study design in the same area with the same tool could be repeated and other study in patient self care, self management, knowledge on diabetes mellitus and hypertension screening among community as well as health care provider, perception of non communicable disease quality of life among healthcare provider could help these populations. There is a need for interventions system to improve patient outcome and inclusion of QoL domain assessment as part of patients follow up. Health professionals need to pay attention to the dimensions of QOL that are most affected in patients with NCDs and intervene early on, since this aspect may play negative influence on treatment adherence of the disease.

### **6.2 RECOMMENDATION**

The finding has highlighted specialized area with lower QoL of population therefore there an need to increased strategies and implement adequate targets interventions for healthcare system as well as healthcare providers skills to achieve better quality management of these global burden urbanization diseases and improvement of the level of quality of life of patient suffering these non communicable diseases (hypertensive and diabetes). As it was found that these disorders have an impact on physical and psychological health further health education with regarding change in these specialized health component may help to improve the quality of life.

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# ANNEXES

## WHOQOL-BREF-QUESTIONNAIRE

### SECTION A

The following questions ask about your demographic aspect.

- I. Age:.....
- II. Sex: Female  Male
- III. Marital status: Single  Divorced  Married  Widower
- IV. Education Level: Illiterate  Primary  Secondary  University   
other.....
- V. Province resident: Eastern  Northern  Southern  Ouestern   
Kigali
- VI. Insurance: MMI  MEDIPLAN  Mutuelle  RAMA  Private
- VII. Job type:.....

### SECTION B

The following questions ask how you feel about your quality of life, health, or other areas of your life. I will read out each question to you, along with the response options. **Please choose the answer that appears most appropriate.** If you are unsure about which response to give to a question, the first response you think of is often the best one.

Please keep in mind your standards, hopes, pleasures and concerns. We ask that you think about your life **in the last four weeks.**

		Very poor	Poor	Neither poor nor good	Good	Very good
1.	How would you rate your quality of life?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
2.	How satisfied are you with your health?	1	2	3	4	5

The following questions ask about **how much** you have experienced certain things in the last four weeks.

		Not at all	A little	A moderate amount	Very much	An extreme amount
3.	To what extent do you feel that physical pain prevents you from doing what you need to do?	5	4	3	2	1
4.	How much do you need any medical treatment to function in your daily life?	5	4	3	2	1
5.	How much do you enjoy life?	1	2	3	4	5
6.	To what extent do you feel your life to be meaningful?	1	2	3	4	5

		Not at all	A little	A moderate amount	Very much	Extremely
7.	How well are you able to concentrate?	1	2	3	4	5
8.	How safe do you feel in your daily life?	1	2	3	4	5
9.	How healthy is your physical environment?	1	2	3	4	5

The following questions ask about how completely you experience or were able to do certain things in the last four weeks.

		Not at all	A little	Moderately	Mostly	Completely
10.	Do you have enough energy for everyday life?	1	2	3	4	5
11.	Are you able to accept your bodily appearance?	1	2	3	4	5
12.	Have you enough money to meet your needs?	1	2	3	4	5
13.	How available to you is the information	1	2	3	4	5

	that you need in your day-to-day life?					
14.	To what extent do you have the opportunity for leisure activities?	1	2	3	4	5

		Very poor	Poor	Neither poor nor good	Good	Very good
15.	How well are you able to get around?	1	2	3	4	5

		Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied
16.	How satisfied are you with your sleep?	1	2	3	4	5
17.	How satisfied are you with your ability to perform your daily living activities?	1	2	3	4	5
18.	How satisfied are you with your	1	2	3	4	5

	capacity for work?					
19.	How satisfied are you with yourself?	1	2	3	4	5
20.	How satisfied are you with your personal relationships?	1	2	3	4	5
21.	How satisfied are you with your sex life?	1	2	3	4	5
22.	How satisfied are you with the support you get from your friends?	1	2	3	4	5
23.	How satisfied are you with the conditions of your living place?	1	2	3	4	5
24.	How satisfied are you with your access to health services?	1	2	3	4	5
25.	How satisfied are you with your transport?	1	2	3	4	5

The following question refers to how often you have felt or experienced certain things in the last four weeks.

		Never	Seldom	Quite often	Very often	Always
26.	How often do you have negative feelings such as blue mood, despair, anxiety, depression?	5	4	3	2	1

**Do you have any comments about the assessment?**

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**IGIPAPURO CY'IBIBAZO GIKORESHA N'UMURYANGO WABIBUMBYE  
W'UBUZIMA (WHOQOL-BREF)**

**IGIKA CYA MBERE**

Ibibazo bikurikira bibaza ibijyanye n'imyirondoro rusange.

- I. Imyaka:.....
- II. Igistina: Gore  Gabo
- III. Irangamimerere: Ingaragu  Urubatse  Gutandukana  Umupfakazi
- IV. Urwego rw'amashuri: abanza  amakuru  ayisumbuye  icyiciro cya gatatu  kuba utarize
- V. Intara utuyemo: Iburasirazuba  Amajyaruguru  Iburengerazuba  Amajyepfo  Umujyi wa Kigali
- VI. Ubwishingizi ukoresha: MMI  MEDIPLAN  Mutuelle  RAMA  Kugiti cyawe  ibindi.....
- VII. Umurimo ukora:.....

**IGIKA CYA KABIRI**

Ibi bibazo bikurikira birabaza ibirebana nuko wumva imibereho yawe, ubuzima, nibindi bijyanye n'imibereho yawe. Ushobora guhitamo igisubizo ubona aricyo kikwiriye kandi **nimba utizeye igisubizo watanga ku kubazo runaka, byaba byiza uhisemo ikikujemo bwambere kuko nicyo kiba ari cyiza.**

Nyabunda birasaba ko uzirikana mu bwenge ibipimo ngenerwaho byawe, icyizere, kwishimisha, ndetse n'inshingano. **Tukakubaza ko watekereza kubijyanye n'imibereho yawe nko mubyumweru bine bishize.**



		Bibi cyane	Bibi	Si bibi kandi si byiza	Byiza	Byiza cyane
27.	Watanga amanota ku kigero kingana iki ku iminogere y'imibereho yawe?	1	2	3	4	5

		Kutanyurwa na buhoro	Kutanyurwa	Nta kunyurwa nta no kutanyurwa	kunyurwa	Kunyurwa cyane
28.	Waba Unyuzwe ku rugero rungana iki n'Ubuzima bwawe?	1	2	3	4	5

Ibibazo bikurikira birabaza kubijyanye no kukigero runaka waba warahuye nibintu bitandukanye mu byumweru bine bishize.

		Nta na gake	Gake	Ku kigero kiringaniye	Kenshi	Ku kigero gihanitse
29.	Ni kukihe kigero wumva ububabare bw'umubiri bukubaza gukora icyo wifuza gukora?	5	4	3	2	1
30.	Ni kangahe ukenera imiti iyo ariyo yose kugira ukore mu mibereho yawe yaburi munsu?	5	4	3	2	1
31.	Ni kangahe ushimishwa n'imibereho yawe?	1	2	3	4	5
32.	Ni kukigero kingana iki wumva imibereho yawe ifite icyo ivuze cyangwa ifite ubusobanuro?	1	2	3	4	5

		Nta nagake	Gake	Kurugero ruringaniye	Kenshi	Gihanitse
33.	Ni kukigero kingana iki wibanda cyangwa wita ku kintu?	1	2	3	4	5
34.	Ni kangahe wumva utekanye mu mibereho yawe ya buri munsu?	1	2	3	4	5
35.	Ni kukigero kingana iki wumva Ubuzima bwibi garagara bigukikije ?	1	2	3	4	5

Ibibazo bikurikira bibaza ibijyanye nuburyo wujuje ibyo wahuye nabyo cyangwa nuburyo wabashije kubikora mu byumweru bine bishize.

		Nta nagake	Gake	Biringaniye	bikabije	Byuzuye
36.	Waba ufite imbaraga zihagije mu mibereho ya buri munsu?	1	2	3	4	5
37.	Waba ushobora kwiyakira uburyo umubiri wawe ugaragara?	1	2	3	4	5
38.	Ufite amafaranga ahagije akwiranye n'ibyo ukenera?	1	2	3	4	5
39.	Ni kurugero rungana iki ubona amakuru ukeneye ku mibereho y'ubuzima bwawe y'umunsu ku munsu?	1	2	3	4	5
40.	Ni kurugero rungana iki ufite amahirwe yo kwidagadura mu bikorwa bitandukanye?	1	2	3	4	5

		Nabi cyane	Nabi	Si nabi kandi si Neza	Neza	Neza cyane
41.	Uba umeze gute muburyo ushobora bwo kugendagenda hafi hagukikije	1	2	3	4	5

		Kutanyurwa na buhoro	Kutanyurwa	Nta kunyurwa nta no kutanyurwa	kunyurwa	Kunyurwa cyane
42	Unyurwa bingana iki n'uburyo usinzira?	1	2	3	4	5
43	Unyurwa bingana iki n'ubushobozi ukenera ngo ubashe kuzaza /kurangiza imirimo yawe y'imibereho ya buri munsi?	1	2	3	4	5
44	Unyuzwe bingana iki n'imbaraga uba ufite mu kazi kawe?	1	2	3	4	5
45	Unyuzwe bingana iki n'uburyo uri ku giti cyawe?	1	2	3	4	5
46	Unyuzwe bingana iki ku mibanire yawe n'abandi?	1	2	3	4	5
47	Unyurwa bingana iki n'imibereho y'imibonano mpuzabitsina yawe?	1	2	3	4	5
48	Unyurwa bingana iki n'ubufasha uhabwa n'inshuti zawe?	1	2	3	4	5
49	Unyurwa bingana	1	2	3	4	5

	iki n'uko aho utuye hameze?					
50	Unyurwa bingana iki n'uburyo wegerejwe serivise z'ubuzima?	1	2	3	4	5
51	Unyuzwe bingana iki n'urugendo ukora?	1	2	3	4	5

Ibibazo bikurikira bishingiye ku nshuro wumvise umbwiyumvo cyangwa wahuye nibintu bimwe na bimwe mu byumweru bine bishize.

		Ntako	Ntibikunze kubaho	Bibaho gake	Bibaho kenshi	Burigihe
52.	Ni kanga he ugira ubwiyumvo bubi nko kwiheba, agahinda, kubabara, kutigirira icyizere, umunabi?	5	4	3	2	1

**Waba ufite icyo wavuga kuri iri suzuma?**

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## **CONSENT TO PARTICIPATE IN A RESEARCH STUDY**

**Title of Study:** QUALITY OF LIFE IN PATIENT WITH CHRONIC NON COMMUNICABLE DISEASES (DIABETES AND HYPERTENSION) ATTENDING REFERS HOSPITAL

**Researcher's Name:** MUHIMPUNDU RUTAYISIRE Diane

**Phone number:** 0788879397

### **INTRODUCTION**

My name is MUHIMPUNDU RUTAYISIRE Diane student in nursing masters Program College of medicine and health sciences university of Rwanda. My study will look on Quality of life in patient with chronic non communicable diseases. It will focus on patient with diabetes and hypertension who attending refers hospitals.

### **PURPOSE OF STUDY**

The purpose of the study is to assess the quality of life and life satisfaction in patient with chronic non communicable diseases.

### **DESCRIPTION OF THE STUDY PROCEDURES**

When you agree to participate in this study, Firstly, you will be asked to sign this consent form, then you will be explained about question, take a questionnaire read it and fill it and you will be required to submit it back to the researcher after fill it. Also you will be given a signed and dated copy of the consent form to keep, along with any other printed materials deemed necessary by the researcher.

### **RISKS/DISCOMFORTS OF BEING IN THIS STUDY**

There no known risks. And there are no reasonable foreseeable (or expected) risks.

### **BENEFITS OF BEING IN THE STUDY**

This study has the benefit to know the level of quality of life in patient with non communicable disease therefore being participant in this study will help to show the quality of life of the patient with similarly problem, the result of this study will help to advocate for

the issues and you will gain or understand how the quality of life is measured through different question.

### **CONFIDENTIALITY**

The questionnaire used in this study will not be collecting or retaining any information about your identity like your name. Also the researcher will not include any information in any report he may publish that would make it possible to identify you.

The records of this study will be kept strictly confidential. Research records will be kept in a locked file and all electronic information will be coded and secured using a password protected file.

### **PAYMENTS**

This study has academic purpose no any funds so there will be no payment to participate in this study

### **RIGHT TO REFUSE OR WITHDRAW**

The decision to participate in this study is completely up to you. You may refuse to take part in the study at any time without affecting you. You have the right not to answer any single question or question you think concerns your dignity, as well as to withdraw completely from the study at any point during the process.

### **RIGHT TO ASK QUESTIONS AND REPORT CONCERNS**

You have the right to ask questions about this research study and to have those questions answered by the research before, during or after the research. If you have any further questions about the study, at any time feel free to contact me, MUHIMPUNDU R. Diane at E-mail: stellediane@yahoo.fr or by telephone at 0788879397.

If you like, a summary of the results of the study will be sent to you. If you have any other concerns about your rights as a research participant that has not been answered by the researcher, you may contact MBARUSHIMANA Valens assistance researcher postgraduate officer of the College of medicine and health science University of Rwanda at +250 788 231 816.

If you have any problems or concerns that occur as a result of your participation, you can report them to the MBARUSHIMANA Valens at the number above. Alternatively, concerns can be reported to the IRB at [researchcenter@ur.ac.rw](mailto:researchcenter@ur.ac.rw).

## CONSENT

I have been explained about the purpose of research that assesses the quality of life in patient with chronic non communicable disease.

I have been understood all information provided about the researcher include my right to refuse and to withdraw or to not answered all question, that there no known risk, no any payment any no particular benefit except to understood how the quality are measure through the question that can be asked. And also I have to feel free to contact a researcher any time when I have concerns.

I have been understood that the confidentiality will be taking serious in this study where on the questionnaire will not appear my name or other particular identity; And that I have a right to refuse or to withdraw my participation in this study.

After been read, explained and understood all the information provided above about the purpose of study and their rules. Consciously, I decided to volunteer as a research participant for this study, my consciousness for participation in this study indicated by my signature below.

Participant's Name (print):.....

Participant's Signature: .....

Date:.....

Researcher's Signature: .....

Date:.....

## **AMASEZERANO YO KUGIRA URUHARE MU BUSHAKASHATSI**

**Izina ry’ubushakashatsi:** IMINOGERE Y’IMIBEREHO MU BARWAYI BAFITE UBURWAYI BUHORAHO BUTANDURA (NKA DIYABETE N’UMUVUDUKO WA MARASO) BIVURIZA MU BITARO BIKURU.

**Izina ry’umushakashatsi:** MUHIMPUNDU RUTAYISIRE Diane

**Numero za telefone: 0788879397**

### **IRI BURIRO**

Nitwa muhimpundu rutayisire diane nkaba ndi umunyeshuri muri koreji y’ubuvuzi, ndetse n’ubumenyi bw’ubuzima rya kaminuza y’urwanda mwishami ry’ubuforomo n’ububyaza. Nkaba ndi gukora ubushakashatsi ku kureba “**iminogere y’imibereho mu barwayi bafite uburwayi buhora ho butandura (nka diyabete n’umuvuduko wa maraso) bivuriza mu bitaro bikuru**”. Nkazibanda kubarwayi babana na diyabete n’umuvuduko w’amaraso.

### **INTEGO Y’UBUSHAKASHATSI**

Ubu bushakashatsi bugamije kureba urwego rw’imibereho y’ababana nizi ndwara (diyabete n’umuvuduko w’amaraso) zidakira uko buhagaze ndeste n’iminyurirwe y’ubuzima bwabo.

### **IBIZAKORWA MURI UBUBUSHAKASHATSI**

Mu gihe wemeye kugira uruhare muri ubu bushakashatsi, bwambere usabwa kuzaza amasezerano yemera kugira uruhare mu bushakashatsi ndetse ugasobanurirwa ibibazo binyuranye bibazwa kuri ubwo bushakashatsi, unahabwe urupapuro rw’ibibazo bibazwa ku bushakashatsi ufite gusoma ukarwuzuzanya nyuma yo kurwuzuzanya ukarugarurira umushakashatsi. Kopi y’urupapuro rw’amasezerano urayihabwa n’izindi kopi zakenerwa mu bushakashatsi.

### **INGARUKA/ KUTAGUBWANEZA ZO KUBA MURI BUSHAKASHATSI**

Nta ngaruka zizwi, nta nitezanywa muri ubu bushakashatsi.

### **INYUNGU ZO KUBA MURI UBU BUSHAKASHATSI**

Ubu bushakashatsi bufite inyungu yo kuba hamenyekana urwego rw’imibereho yabarwayi babana nizi ndwara zavuze haruguru. Kurubwo kugira uruhare muri ubu bushakashatsi bizafasha kwerekana urwego rw’iminogere y’ubuzima y’abarwayi bafite ibibazo bisa



nibyanyu, kandi ibizavamo bizadufasha mu buvugizi kandi uzabasha gusobanukirwa n'uburyo iminogere y'ubuzima igenzurwa hakurikije ibibazo bibazwa.

### **KUGIRA IBANGA**

Amakuru yose tuzakura muri ubu bushakashatsi azaguma ari ibanga kandi nta zina rizagara ku rupapuro ruriho ibibazo n'ibisubizo. Nta makuru namwe akwerekeyeho tuzakubaza muri ubu bushakashatsi, amakuru yose azabikwa ahantu zihezewe kandi ntawundi muntu usibye abari muri ubu bushakashatsi wemerewe kuyabona.

### **AGAHIMBAZAMUSYI**

Ubu bushakashatsi bufite intego kubijyanye n'amashuri nta nkunga y'amafaranga cyangwa indi ntego ifite inyungu bityo rero nta mafaranga cyangwa impano duteganya gutanga ku kwemera kugira uruhare muri ubu bushakashatsi.

### **UBURENGANZIRA BWO KWANGA CYANGWA KUVA MU BUSHAKASHATSI**

Umugambi wo kugira uruhare muri ubu bushakashatsi bushingiye kubushake bwawe bwose, Ufite uburenganzira ubwo aribwo bwose bwo kutabugiramo uruhare muri ubu bushakashatsi kandi ntibigire icyo biguhungabanyaho. Ufite uburenganzira bwo kutagira ikibazo na kimwe usubiza cyangwa ikibazo waba wumva kirebena n'ubusugire cyawe. Kimwe nuko ufite uburenganzira bwo kuba wava cyangwa wahagarika ubushakashatsi igihe icyo aricyo cyose nubwo bwaba bwatangiyeye.

### **UBURENGANZIRA BW'UWO WABAZA IKIBAZO NO GUTANGA RAPORO Y'IBYO WUMVA BITAMEZE NEZA**

Ufite uburenganzira bwo kubaza ibibazo bijyanye n'ubu bushakashatsi no kuba cya subizwa n'umushakashatsi mbere. haramutse hari ikibazo ushobora kwifuza kuzabaza nyuma ushobora kukibaza wisanzuye igihe icyo aricyo cyose ukampamagara jye MUHIMPUNDU R.Diane kuri telephone 0788879397 cyangwa ukaba wanyandikira kuri [stellediane@yahoo.fr](mailto:stellediane@yahoo.fr).

Uramutse wifuza kumenya incamake y'amakuru yavuye muri ubu bushakashatsi. Kandi nimbi waba ufite ikintu cy'umwihariko cyo kubaza cyangwa uburenganzira bwawe butubahirijwe nkuwagize uruhare mu bushakashatsi kitabashije gusubizwa n'umushakashatsi

wakigeza kuwitwa MBARUSHIMANA Valens kuri telephone +250 788 231 816 ukorera mu biro bishinzwe ubushakashatsi kuri koleji y'ubuzima kaminuza y'u Rwanda.

### **AMASEZERANO**

Njye nasobanuriwe intego y'ubushakashatsi ko ari ugushaka kumenya iminogere y'imibereho yabarwayi babana nindwara zidakira nka diyabete n'umuvuduko wa maraso.

Njye numvise neza amakuru nahawe ajyanye n'ubu bushakashatsi harimo ko ntangaryuka byangiraho,kandi ko nta nyungu kugiti cyanjye nzakura mukwemera kugira uruhare muri ubu bushakashatsi,kandi ko ntamafaranga cyangwa impano nzahabwa nindamuka nemeye kugira uruhare muri ubu bushakashatsi.Nahawe kandi amazina yukuriye ubushakashatsi,aderesi ye kuburyo nshobora kumubaza ibibazo bijyanye n'ubu bushakashatsi igihe icyo aricyo cyose.

Njye nanumvise neza ko muri ubu bushakashatsi harimo kubika ibanga kuko kurupapuro rw'ibibazo nta mwirondoro wanjye uzagaragaraho. Kandi ko mfite uburenganzira bwo guhagarika kugira uruhare mu bushakashatsi.

Nyuma yo kubyisomera, gusobanurirwa no kumva amakuru yose nahawe yavuzwe haruguru, Nemeye kugira uruhare muri ubu bushakashatsi kugiti cyanjye bikemezwa n'umukono wanjye.

Amazina yuwemeye kugira uruhare mu  
busshakashatsi.....

Umukono wuwemeye kugira uruhare  
mubushakashatsi.....

Italiki...../...../.....

**THE FORM FOR SUBMISSION OF THE DISSERTATION**

**UR-COLLEGE OF MEDICINE AND HEALTH SCIENCES  
P.O.BOX 3286 KIGALI**

**DECLARATION AND AUTHORITY TO SUBMIT THE DISSERTATION**

**MUHIMPUNDU RUTAYISIRE Diane**

Title of the thesis

**Quality of life in patient with chronic non communicable disease (diabetes and hypertension) attending Kigali refers hospitals**

*a. Declaration by the Student*

I do hereby declare that this *dissertation* submitted in partial fulfillment of the requirements for the degree of **MASTERS OF SCIENCE in NURSING**, at the University of Rwanda/College of Medicine and Health Sciences, is my original work and has not previously been submitted elsewhere. Also, I do declare that a complete list of references is provided indicating all the sources of information quoted or cited.

Date and Signature of the Student

.....

*b. Authority to Submit the dissertation*

Surname and First Name of the Supervisor

**ANITA Collins.**

In my capacity as a Supervisor, I do hereby authorize the student to submit his/her **dissertation**.

Date and Signature of the Supervisor/Co-Supervisor

.....



Kigali, 09/01/2017  
Ref: CMHS/IRB/037/2017

MUHIMPUNDU RUTAYISIRE Diane  
School of Nursing and Midwifery, CMHS, UR

Dear MUHIMPUNDU RUTAYISIRE Diane

**RE: ETHICAL CLEARANCE**

Reference is made to your application for ethical clearance for the study entitled *"Quality Of Life In Patient With Chronic Non Communicable Disease (Diabetes And Hypertension) Attending Refers Hospital."*

Having reviewed your protocol and found it satisfying the ethical requirements, your study is hereby granted ethical clearance. The ethical clearance is valid for one year starting from the date it is issued and shall be renewed on request. You will be required to submit the progress report and any major changes made in the proposal during the implementation stage. In addition, at the end, the IRB shall need to be given the final report of your study.

We wish you success in this important study.

FDS

Professor Kato J. NJUNWA  
Chairperson Institutional Review Board,  
College of Medicine and Health Sciences, UR



*[Handwritten signature]*  
*[Handwritten signature]*  
IRB Vice-Chair

- Cc:
- Principal College of Medicine and Health Sciences, UR
  - University Director of Research and Postgraduate Studies, UR



UNIVERSITY OF RWANDA COLLEGE OF MEDICINE AND HEALTH SCIENCES

SCHOOL OF NURSING AND MIDWIFERY

Kigali, on 30 / 01 / 2017

Ref. No: 24/UR-CMHS/SoNM/17

**TO WHOM IT MAY CONCERN**

Dear Sir/Madam,

Re: Request to collect data

Referring to the above subject, I am requesting for permission for MUHIMPUNDU RUTAYISIRE Diane, a final year student in the Masters of Science in Nursing at the University of Rwanda/College of Medicine and Health Science to collect data for his/her research dissertation entitled **QUALITY OF LIFE IN PATIENT WITH CHRONIC NON COMMUNICABLE DISEASE (DIABETE AND HYPERTENSION) ATTENDING REFERS HOSPITAL**

This exercise that is going to take a period of 2 months starting from 13<sup>th</sup> February 2017 to 13<sup>th</sup> April 2017 will be done at RWANDA MILITARY HOSPITAL and UNIVERSITY TEACHING HOSPITAL OF KIGALI

We are looking forward for your usual cooperation.

Sincerely,



Dr. Donatilla MUKAMANA, RN, PhD  
Dean, School of Nursing and Midwifery  
College of Medicine and Health Sciences



March 31<sup>st</sup>, 2017

Ref.: EC/ RMH/ 122/ 2017

**REVIEW APPROVAL NOTICE**

Dear **MUHIMPUNDU RUTAYISIRE Diane**  
**UNIVERSITY OF RWANDA**

Your research project: **“Quality of Life in Patient with Chronic Non Communicable Diseases (Diabetes and Hypertension) Attending Kigali Refers Hospitals”**.

With respect to your application for ethical approval to conduct the above stated study at Rwanda Military Hospital, I am pleased to confirm that RMH Ethics Committee has approved your study. This approval lasts for a period of **12 months** from the date of this notice, and after which, you will be required to seek another approval if the study is not yet completed.

You are welcome to seek other support or report any other study related matter to the Research office at Rwanda Military Hospital during the period of approval.

You will be required to submit the progress report and any major changes made in the proposal during the implementation stage. In addition, you are required to present the results of your study to RMH Ethics Committee before publication.

Sincerely,



**Dr. Pacifique MUGENZI**  
**Lieutenant Colonel**  
**Co Chair: Rwanda Military Hospital Research Ethics Committee**

Email: [Info@rwandamilitaryhospital.rw](mailto:Info@rwandamilitaryhospital.rw)  
Tel: 0252586420  
P.o Box: 3377RWANDA MILITARY HOSPITAL





**CENTRE HOSPITALIER UNIVERSITAIRE  
UNIVERSITY TEACHING HOSPITAL**

**Ethics Committee / Comité d'éthique**

February 3<sup>rd</sup>, 2017

Ref.: EC/CHUK/249/2017

**Review Approval Notice**

Dear Muhimpundu Rutayisire Diane,

*Your research project: "Quality of life in patients with chronic non communicable disease (Diabetes and Hypertension) attending Refers Hospital."*

During the meeting of the Ethics Committee of University Teaching Hospital of Kigali (CHUK) that was held on 3/02/2016 to evaluate your protocol of the above mentioned research project, we are pleased to inform you that the Ethics Committee/CHUK has approved your protocol.

You are required to present the results of your study to CHUK Ethics Committee before publication.

PS: Please note that the present approval is valid for 12 months.

Yours sincerely,



The Secretary, Ethics Committee,  
University Teaching Hospital of Kigali

<<University teaching hospital of Kigali Ethics committee operates according to standard operating procedures (Sops) which are updated on an annual basis and in compliance with GCP and Ethics guidelines and regulations>>.

B.P. :655 Kigali- RWANDA [www.chk.rw](http://www.chk.rw) Tél. Fax : 00 (250) 576638 E-mail : [chuk.hospital@chukigali.rw](mailto:chuk.hospital@chukigali.rw)

## GANTT CHART

Activities	Timeline in months				
	June- Dec/16	Jan- Feb/ 16	15 Mar- 2May 17	May-17	Jun-17
Research design, Protocol					
Approval of the protocol and Ethical approval					
Data collection and data entry					
Data processing /Analysis					
Report Writing					
Drafting final report					
Final report submission					

## BUDGET

Item	Number	Price/Unit	Total
Data collector			500000 Frw
Biostatistician			500000 Frw
Equipment			500000 Frw
Tool translation			500000 Frw
Flash disc for backup system			500000 Frw
Papers, printing & pens			500000 Frw
Report writing & printing			500000 Frw
Device			500000 Frw
Communication fees			500000 Frw
Total			4.500.000 Frw