



**KIBOGORA POLYTECHNIC**



**FACULTY OF HEALTH SCIENCES**

**DEPARTMENT OF GENERAL NURSING**

**ASSESSMENT OF FACTORS ASSOCIATED WITH HYPERTENSION  
AMONG PATIENTS ATTENDING TO NCDS DEPARTMENT AT  
BUSHENGE - PROVINCIAL HOSPITAL.**

**Case study: Bushenge provincial hospital, period (2020-2022)**

A Research Thesis submitted in partial fulfillment of the requirement for Bachelor degree with honor in  
General Nursing With Health Sciences

**PAPER PREPARED BY:**

TUYISHIME Vedastine

REG. N°2000983

NDIHOKUBWAYO Alice

REG. N°2000974

**SUPERVISOR:**

NSENGIYUMVA Jean Paul

Kibogora, May, 2022

## **DECLARATION**

### **Declaration by the Candidate**

We NDIHOKUBWAYO Alice and TUYISHIME Vedastine hereby declare that this is our own original work and not a duplication of any similar academic work. It has therefore not been previously or concurrently submitted for any other degree, diploma or other qualification to Kibogora Polytechnic or any other institution. All materials cited in this paper which are not our own have been duly acknowledged.

Names: NDIHOKUBWAYO Alice

Signed

Date

Names: TUYISHIME Vedastine

Signed

Date

### **Declaration by the Supervisor**

I declare that this work has been submitted for examination with my approval as KP Supervisor

Supervisor's name: NSENGIYUMVA Jean Paul

Signed

Date

## ABSTRACT

**Background:** hypertension is a serious medical condition that significantly increases the risks of heart, brain, kidney and other diseases, an estimated 1.28 billion adults aged 30-79 years worldwide have hypertension, and most (two-thirds) living in low- and middle-income countries, an estimated 46% of adults with hypertension are unaware that they have the condition, less than half of adults (42%) with hypertension are diagnosed and treated the condition as well, approximately 1 in 5 adults (21%) with hypertension have it under control, hypertension is a major cause of premature death worldwide, one of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030 (WHO; 2021).

**Aim:** the purpose of this study was to identify the factors associated with hypertension among patients attending to non-communicable diseases department at Bushenge provincial hospital

**Research methodology:** the study was descriptive cross-section study that used in simple random sampling method during data collection among patients attending to non-communicable diseases department at Bushenge provincial hospital, Microsoft Excel was used to analyse the Data.

**Results:** prevalence was 43.5%, both factors and knowledge of patient about hypertension, out of 57 respondents, 38(67%) was smoker, 30(53%) was diabetic, 95% was people using herbal or traditional remedy in life, 77% was people does not working physical exercises and 68% was people do not prepare the meal with vegetables.

**Recommendation:** Hospital should facilitates the nurses in campaign on mobilization of hypertension diseases in screening and treatment. People should be able to know the knowledge about hypertension diseases

## **DEDICATION**

This research was dedicated to:

Almighty God;

Our parents;

Our family members;

Our friends;

Our Supervisor;

Classmate.

## **ACKNOWLEDGEMENT**

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## LIST OF ABBREVIATIONS

**%:** Percentage

**>:** Greater Than

**ACC/AHA:** American College of Cardiovascular/American Heart Association

**BPH:** Bushenge provincial Hospital

**CPD:** Continuing Professional Development

**CVD:** Cardio -vascular diseases

**DASH:** Dietary Approaches to Stop Hypertension

**HBP:** High Blood Pressure

**HDL:** High-Density Lipoprotein

**HTN:** Hypertension

**KP:** Kibogora Polytechnic

**LMIC:** Low and Middle –Income Countries

**NCDS:** Non- Communicable Diseases

**REC:** Research Ethical Committee

**SSA:** Sub Saharan Africa

**US:** United State

**WHO:** World Health Organization

**SH:** Severe Hypertension

## **CHAPTER ONE: GENERAL INTRODUCTION**

### **1.0. INTRODUCTION**

This chapter is going to cover the background, problem statement, and purpose of study, research questions, and research objectives, significance of the study, scope of study and the limitations of the study.

### **1.1.BACKGROUND OF THE STUDY**

Worldwide, hypertension is a serious medical condition that significantly increases the risks of heart, brain, kidney and other diseases, an estimated 1.28 billion adults aged 30-79 years worldwide have hypertension, and most (two-thirds) living in low- and middle-income countries, an estimated 46% of adults with hypertension are unaware that they have the condition, less than half of adults (42%) with hypertension are diagnosed and treated the condition as well, approximately 1 in 5 adults (21%) with hypertension have it under control, hypertension is a major cause of premature death worldwide, one of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030 (WHO; 2021).

In Africa, between June and August 2018, communities including Kenya, Nigeria, Tanzania, and Uganda, the analyzed data of 3549 participants, the mean age was 39.7 years, 60.5% of whom were women, 9.6% had ever smoked cigarettes, and 32.7% were overweight/obese, a quarter of the participants (25.4%) had hypertension, more than a half of whom (57.2%) were aware that they had diagnosed hypertension, among those diagnosed, 50.5% were taking medication, and among those taking medication 47.3% had controlled blood pressure, after adjusting for other determinants, older age was associated with increased hypertension prevalence, awareness, and treatment whereas primary education was associated with lower hypertension prevalence; health insurance was associated with lower hypertension prevalence and higher chances of treatment (Samson Okello,2020).

In Sub-Saharan Africa the Heart Fund's global health initiative, collected data in August 2016 from 6 randomly selected sites, ensuring representativeness of both urban and rural areas, among 1785 subjects examined, 1182 aged between 18 and 75 years were included in this analysis, the prevalence was 14.1% (12.5% females vs. 17.0% males, the participants with severe hypertension, 28.9% were either undiagnosed or untreated, alarmingly, subjects at high cardiovascular risk (age  $\geq$  60 years and/or obese) had even higher prevalence of overall SH (29.6% and 24.9%, respectively) as well as undiagnosed/untreated SH (29.4% and 24.6%),SH prevalence was almost double in urban compared to rural areas (17.0% vs.

9.2%) however, conversely, undiagnosed SH will significantly higher in rural areas (50.4% vs. 21.9%) (BambaGaye, 2019).

In Rwanda hypertension is a leading cause of cardiovascular diseases and has become a public health problem in Rwanda especially urban communities. The prevalence of hypertension in Rwanda is estimated to be 15% of the 12 million Rwandans, most people with hypertension are unscreened and do not know their hypertension status (Jacey Greece, 2021).

In western province, the research study was conducted in Nyamaskeke district, found that the majority of participants (92.3%) were coming from rural areas, 57.3% were females, 71.3% and were aged between 46 and 60 years, the prevalence of hypertension was found to be 16.1%, among those with hypertension, 12.6% had stage 1 hypertension whereas 3.5% were at stage 2 of hypertension (Innocent NIYONKURU, 2021). In 2021 was 45% patient attending Bushenge district hospital was hypertensive. 2% dead for hypertension per year, the reason why we have been pushed to identify the factors associated with hypertension among patients attending to non-communicable diseases department, the findings of this research will contribute to the reduction of morbidity and mortality attributed to - hypertension in Bushenge.

## **I.2.PROBLEM STATEMENT**

According to the global brief on hypertension report, hypertension contributes to the burden of heart disease, stroke, kidney failure, premature mortality and disability (WHO, 2015). Hypertension remains uncontrolled in many developing and developed countries (Brunditland, 2018). Highlight, epidemiological transition of non-communicable disease in sub- Saharan Africa the mortality and morbidity from non-communicable diseases in the low- and middle- class countries like Rwanda is on the rise (Prabakaran, 2018). The fact that uncontrolled hypertension is associated with increased morbidity and mortality and it result in different complications like heart attack or stroke, heart failure (WHO, 2017).

In Rwanda, June 2, 2021, hypertension is a leading cause of cardiovascular diseases and has become a public health problem in Rwanda especially urban communities. The prevalence of hypertension in Rwanda is estimated to be 15% of the 12 million Rwandans. Most people with hypertension are unscreened and do not know their hypertension status. (Jacey Greece, 2021)In western province, the research conducted in Nyamaskeke district, found that the majority of participants (92.3%) were coming from rural areas, 57.3% were females, 71.3% and were aged between 46 and 60 years. The prevalence of hypertension was found to be

16.1%. Among those with hypertension, 12.6% had stage 1 hypertension whereas 3.5% were at stage 2 of hypertension (Innocent NIYONKURU, 2021).

In Bushenge provincial hospital the patient with hypertension in 2020 were 40% of patients attending Bushenge provincial hospital was hypertensive and do not aware. In 2021 was 45% patient attending Bushenge provincial hospital was hypertensive. 2% dead for hypertension per year, the reason why we have been pushed to identify the factors associated with hypertension among patients attending to non-communicable diseases department, will contribute to the reduction of morbidity and mortality attributed to hypertension in Bushenge.

### **1.3. PURPOSE OF THE STUDY**

To assess the factors associated with hypertension among patients attending to non-communicable diseases department at Bushenge provincial hospital. By knowing those factors, it will contribute to the reduction of morbidity and mortality attributed to hypertension

### **1.4. RESEARCH QUESTIONS**

1. What is the prevalence of hypertensive patients attending to non-communicable diseases department at Bushenge provincial hospital?
2. What are the risk factors associated with hypertensive patients attending to non-communicable diseases department at Bushenge provincial hospital?
3. What is the knowledge of patient about prevention of hypertension among patients attending to non-communicable diseases department at Bushenge provincial hospital?

### **1.5. SPECIFIC OBJECTIVES**

1. To determine the prevalence of hypertension among patients attending to non-communicable diseases department at Bushenge provincial hospital.
2. To identify the risk factors associated with hypertension among patients attending to non-communicable diseases department at Bushenge provincial hospital.
3. To assess the knowledge of patient about prevention of hypertension among patients attending to non-communicable diseases department at Bushenge provincial hospital.

## **I.6. SIGNIFICANCE OF STUDY**

A big number of people will benefit from this current research. Therefore, the interests are in different ways: individual interest, social interest, to Bushenge provincial hospital, scientific interest.

### **Individual Interest**

This research will help to increase knowledge for the researcher to match theory to practice and the findings of this study will be beneficial to the researchers himself, due to their understanding on how the factors associated with hypertension among patients attending to non-communicable diseases department, the researcher will awarded a Bachelor's degree in General Nursing with Health Sciences.

### **Social Interest**

This research will facilitate all communities around of Bushenge provincial hospital and patients of Bushenge provincial hospital about the hypertension among patients attending to non-communicable diseases department, to the ways used to reduce the diseases of hypertension with regarding the following; limit the amount of sodium (salt) that they eat, getting regular exercise, being at a healthy weight, limiting alcohol, not smoking and managing stress.

### **Scientific Interest**

This research will help scientifically to the useful to future researchers from KP as well as from other different high learning institutions as a reference and it will upgrade the Kibogora Polytechnics in KP library.

## **I.7.LIMITATIONS OF STUDY**

The limitations regarding to some respondents believed to get money as the wage to participate in the study. Therefore some might not be willing to offer good collaboration within the respondents, but researchers tried to explain them the importance of the results of the research. The researchers also faced the problems of long distance from the location and the field of respondents, it was hard to get transport in terms of money.

## **I.8. SCOPE OF STUDY**

### **1.8.1. Contents scope**

This research was focused on assessment of factors associated with hypertension among patients attending to non-communicable diseases department at Bushenge provincial



hospital. Case study was done in Bushenge provincial hospital located in Bushenge sector, Nyamasheke district.

### **1.8.2. Time scope and field**

This study was covered the interval of period from 2020 to 2022. The study was carried out in BPH and was involved patient attending to NCDS department.

### **1.8.3. Geographical Scope**

This research was limited to Bushenge provincial hospital located in Kagatuma cell, Bushenge sector, Nyamasheke district and Western province.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.0. INTRODUCTION**

This chapter deals with review of the literature, discuss about the definition of Hypertension, literature relating to the prevalence of hypertension, literature relating to the risk factors of hypertension, literature relating about prevention of hypertension and others literature to hypertension.

### **2.1. DEFINITIONS OF KEY CONCEPTS**

#### **Hypertension**

Hypertension is the force exerted by circulating blood against the walls of the body's arteries, the major blood vessels in the body. Hypertension is diagnosed when it is measured on two different days, the systolic blood pressure readings on both days is  $\geq 140$  mmHg and/or the diastolic blood pressure readings on both days is  $\geq 90$  mmHg (WHO, 2021).

#### **Non-communicable disease (NCDs)**

A non-communicable disease (NCDs), also known as chronic diseases, it is a disease that is not transmissible directly from one person to another, tend to be of long duration, and are the result of a combination of genetic, physiological, environmental and behaviors factors. NCDs include most heart diseases, diabetes, chronic kidney disease, Parkinson's disease, autoimmune diseases, strokes, most cancers, osteoarthritis, osteoporosis, Alzheimer's disease, cataracts, and others (Carey et al, 2018).

#### **Factors**

A factor is a part or element that contributes to a result. If you only fly budget airlines and refuse to stay anywhere but youth hostels, then money is probably a big factor in your travel plans.

#### **Patients**

Patient is a person who is receiving medical treatment from a doctor or hospital. A patient is also someone who is registered with a particular doctor.

## **2.2. Prevalence of hypertension among patient attend to NCDS department**

Hypertension is one of the five leading causes of mortality in the world and a major risk factor associated with more than 40% of deaths related to cardiovascular and renal diseases. Because of its asymptomatic nature, many people with the disease remain undiagnosed and untreated thus resulting in increased premature and sudden deaths due to direct or indirect complications, according to 2010 WHO estimates, 22% of adults aged 18 years and above were hypertensive, and 9.4 million deaths were estimated to have been caused by hypertension, which is about 7% of the global burden of disease. Across the WHO regions, Africa has the highest prevalence of high blood pressure with 30% of the people affected, while the lowest was recorded in the American Region, according to a systematic analysis conducted in 2014, prevalence of hypertension increased from 19.7% in 1990 to 30.8% in 2010 in Africa; the changing epidemiology of hypertension is associated with the global economic development resulting in aging population in some societies, and changing lifestyle resulting in increased prevalence of obesity, alcohol and tobacco consumption and physical inactivity; worse still, the level of awareness, treatment and control of hypertension remain low in Africa, thus most of the affected persons are unaware of their status (World Health Organization 2016).

Like many other developing countries, Rwanda is in a phase of epidemiological transition. While communicable diseases remain the major causes of morbidity and mortality in the country, the increasing incidence of non-communicable diseases such as hypertension results in a double burden of diseases; this pattern is associated with improvements in the socioeconomic status of the country in the last 20 years resulting in changes in lifestyle. A study conducted in Bugesera district in 2007 estimated the prevalence of high blood pressure at 16.8%; this study identified age, overweight, dietary intake and physical inactivity as risk factors associated with development of hypertension, a cross-sectional survey conducted at an urban tertiary education institution in Rwanda found that 36% of employees were hypertensive and demonstrated a low level of awareness among hypertensive participants. Low awareness was also documented in a study conducted among hypertensive patients enrolled in the outpatient department of Kigali University Teaching Hospital.

The review of medical records showed that hypertension accounted for 2.5% of total admissions in Ruhengeri district hospital out of which 47.4% presented with severe hypertension (Ministry of Health 2016).

The review highlighted that alcohol consumption, diabetes mellitus, congestive heart failure were significantly associated with hypertension. WHO estimated the number of deaths attributable to hypertension in Rwanda at 18/100,000. Available health facility-based data showed that the proportion of people consulting for high blood pressure increased from 1.9% in 2009 to 6.4% in 2014 in Rwanda. The discrepancy in the prevalence of hypertension between the community and hospital-based data is wide. This can be attributed to the asymptomatic nature of the disease with many people not being aware of their status, not self-reporting and hence not captured in the health facility-based data, given that the community data is a more reliable reflection of the true burden of any disease, we identified the need to analyze the nation-wide survey data collected from a representative sample to better estimate the prevalence of hypertension in Rwanda. This study is a nationally representative study and provides population-based estimates of the prevalence with hypertension in Rwanda. The findings will serve as baseline for monitoring the changing pattern of hypertension (Ministry of Health 2016).

### **2.3 Risk factors of hypertension among patients attending to NCDS Department**

#### **Introduction**

Risk factors that can increase risk of high blood pressure include health conditions, lifestyle, and family history. Some of the risk factors for high blood pressure cannot be controlled, such as age or family history. But can take steps to lower risk by changing the factors can control. Some medical conditions can raise risk for high blood pressure.

#### **Elevated Blood Pressure**

Elevated blood pressure is blood pressure that is slightly higher than normal, high blood pressure usually develops over time. Having blood pressure that is slightly higher than normal increases the risk for developing chronic, or long-lasting, high blood pressure in the future; if blood pressure is between 120/80 mmHg and 129/80 mmHg, blood pressure is elevated and can take steps to manage blood pressure and keep it in a healthy range ( Vasan RS 2002).

#### **Diabetes**

About 6 out of 10 of people who have diabetes also have high blood pressure, diabetes causes sugars to build up in the blood and also increases the risk for heart disease (Beiser A, 2002).

### **Unhealthy diet**

A diet that is too high in sodium puts at risk for high blood pressure, eating too much sodium an element in table salt increases blood pressure, most of the sodium we eat comes from processed and restaurant foods (Seshadri S, 2002).

### **Physical inactivity**

Getting regular physical activity helps the heart and blood vessels stay strong and healthy, which may help to decrease the blood pressure, regular physical activity can also help to keep a healthy weight, which may also help to low the blood pressure (Larson MG, 2002).

### **Obesity**

Having obesity is having excess body fat, having obesity or overweight also means that; heart must work harder to pump blood and oxygen around the all body; over time, this can add stress to the heart and blood vessels, in addition to high blood pressure, having obesity can also lead to heart disease and diabetes (Kannel WB and D' Agostino RB, et al 2002).

### **Too much alcohol**

Drinking too much alcohol can raise the blood pressure, women should have no more than one drink a day and men should have no more than two drinks a day (Callaway CW 2019).

### **Tobacco use**

Tobacco use increases the risk for high blood pressure, smoking can damage the heart and blood vessels, nicotine raises blood pressure, and breathing in carbon monoxide which is produced from smoking tobacco reduces the amount of oxygen that the blood can carry (Carson AP, et al. 2019).

### **Genetics and family history**

Family members share genes, behaviors, lifestyles, and environments that can influence their health and their risk for disease, high blood pressure can run in a family and risk for high blood pressure can increase based on age and race or ethnicity, when members of a family pass traits from one generation to another through genes, that process is called heredity; genes likely play some role in high blood pressure, heart disease, and other related conditions; however, it is also likely that people with a family history of high blood pressure

share common environments and other potential factors that increase their risk, the risk for high blood pressure can increase even more when heredity combines with unhealthy lifestyle choices, such as smoking and eating an unhealthy diet (Bittencourt MS 2019).

### **Age**

Because blood pressure tends to rise as anyone get older, the risk for high blood pressure increases with age, about 9 out of 10 Americans will develop high blood pressure during their lifetime (Alonso A 2019).

### **Sex**

Women are about as likely as men to develop high blood pressure at some point during their lives (Muntner P 2019).

### **Race or ethnicity**

Black people develop high blood pressure more often than white people, Hispanics, Asians, Pacific Islanders, American Indians, or Alaska Natives do, compared with white people, black people also develop high blood pressure earlier in life (Benjamin EJ 2019).

## **2.4 Knowledge of patient about prevention of hypertension among patients attending to non-communicable diseases department**

### **Introduction**

If patient is diagnosed with high blood pressure, (s) he might be worried about taking medication, lifestyle plays an important role in treating high blood pressure, if patient successfully control his/her blood pressure with a healthy lifestyle, it might avoid, delay or reduce the need for medication (Mayo clinic staff 2021).

### **Lose extra pounds and watch waistline**

Blood pressure often increases as weight increases, being overweight also can cause disrupted breathing while sleeping (sleep apnea), which further raises the blood pressure, weight loss is one of the most effective lifestyle changes for controlling blood pressure (Mayo clinic staff 2021).

### **Exercise regularly**

Regular physical activity at least 150 minutes a week or about 30 minutes most days of the week can lower blood pressure by about 5 to 8 mm Hg, if you have high blood pressure, it's important to be consistent because, if you stop exercising blood pressure can rise again, exercise can help to avoid developing hypertension, if you already have hypertension, regular physical activity can bring blood pressure down to safer levels, some examples of aerobic exercise may lower blood pressure include walking, jogging, cycling, swimming or dancing (Mayo clinic staff 2021).

### **Eat a healthy diet**

Eating a diet that is rich in whole grains, fruits, vegetables and low-fat dairy products can lower blood pressure by up to 11 mmHg if blood pressure is high, this eating plan is known as the Dietary Approaches to Stop Hypertension (DASH) diet, it isn't easy to change eating habits, but with these tips, it can adopt a healthy diet: keep a food diary, writing down what you eat, even for just a week, can shed surprising light on true eating habits (Kaplan NM, et al.2015).

### **Reduce sodium in the diet**

Even a small reduction in the sodium in the diet can improve heart health and reduce blood pressure by about 5 to 6 mm Hg if blood pressure is high, the effect of sodium intake on blood pressure varies among groups of people, in general, limit sodium to 2,300 milligrams (mg) a day or less; however, a lower sodium intake 1,500 mg a day or less is ideal for most adults, to decrease sodium in diet, consider these tips: read food labels, if possible, choose low-sodium alternatives of the foods and beverages normally buy, eat fewer processed foods, only a small amount of sodium occurs naturally in foods, most sodium is added during processing, don't add salt, just 1 level teaspoon of salt has 2,300 mg of sodium (Kaplan NM, et al.).

### **Limit the amount of alcohol drinking**

Alcohol can be both good and bad for health, by drinking alcohol only in moderation generally one drink a day for women, or two a day for men can potentially lower blood pressure by about 4 mm Hg, one drink equals 12 ounces of beer, five ounces of wine or 1.5 ounces of 80-proof liquor, but that protective effect is lost if drinking too much alcohol, drinking more than moderate amounts of alcohol can actually raise blood pressure by

several points, it can also reduce the effectiveness of blood pressure medications (Mayo clinic staff 2021).

### **Quit smoking**

Each cigarette smoke increases blood pressure for many minutes after finish, stopping smoking helps blood pressure return to normal, quitting smoking can reduce the risk of heart disease and improve overall health, people who quit smoking may live longer than people who never quit smoking (Mayo clinic staff 2021).

### **Cut back on caffeine**

The role caffeine plays in blood pressure is still debated, caffeine can raise blood pressure up to 10 mm Hg in people who rarely consume it, but people who drink coffee regularly may experience little or no effect on their blood pressure, although the long-term effects of caffeine on blood pressure aren't clear, its possible blood pressure may slightly increase, to see if caffeine raises blood pressure, check pressure within 30 minutes of drinking a caffeinated beverage (Mayo clinic staff 2021).

### **Reduce stress**

Chronic stress may contribute to high blood pressure, more research is needed to determine the effects of chronic stress on blood pressure, occasional stress also can contribute to high blood pressure if react to stress by eating unhealthy food, drinking alcohol or smoking, take some time to think about what causes to feel stressed, such as work, family, finances or illness, once know what's causing the stress, consider how can eliminate or reduce stress, if can't eliminate all of the stressors, at least cope with them in a healthier way (Mayo clinic staff 2021).

### **Monitor blood pressure at home and see doctor regularly**

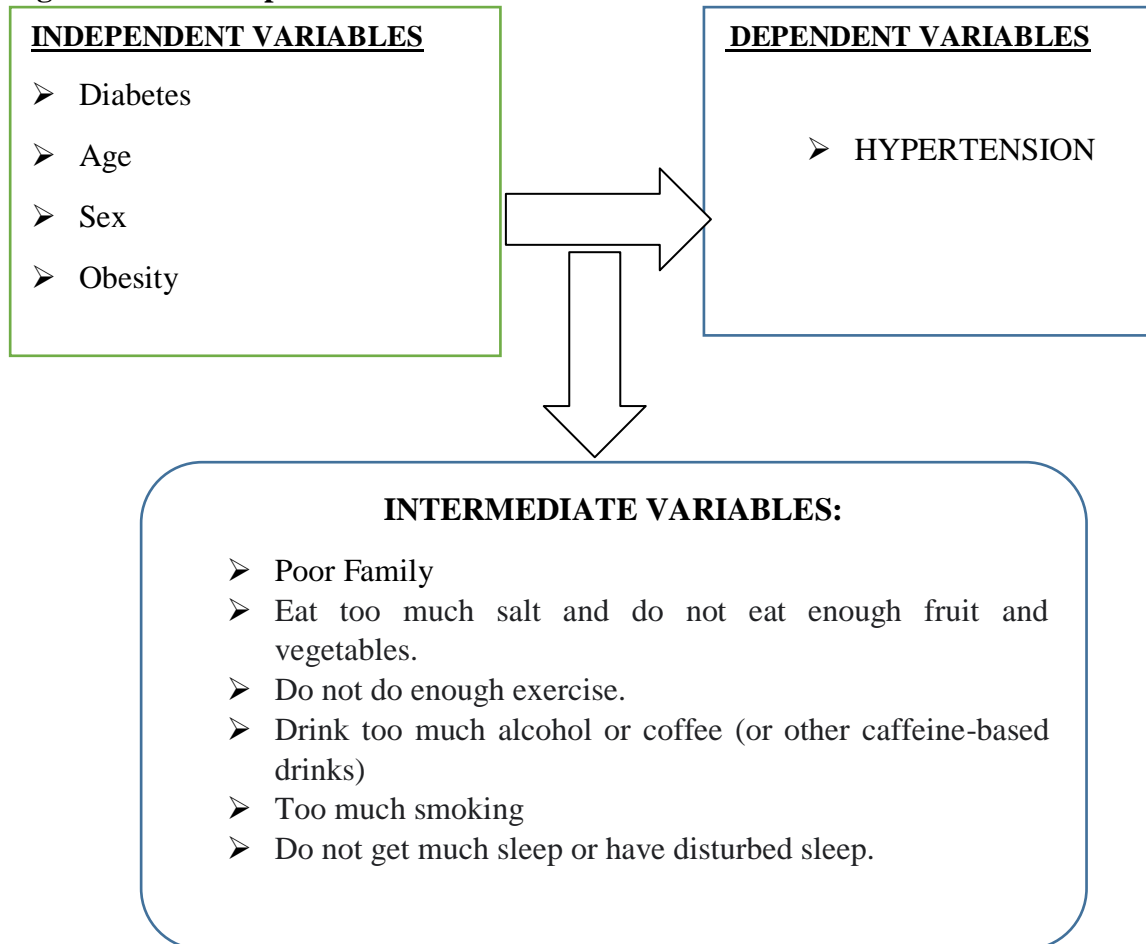
Home monitoring can help to keep tabs on the blood pressure, make certain lifestyle changes are working, and alert the doctor to potential health complications, Blood pressure monitors are available widely and without a prescription, if the blood pressure is well-controlled, check with the doctor about how often needed to check it (Mayo clinic staff, 2021).



## 2.6. CONCEPTUALFRAMEWORK

A good scientific research should be crowned by a conceptual framework justified through logically related variables. The conceptual framework of this study relates the independent variable and to the dependent variable as well as intervening variable in the figure below.

**Figure 2.6.1 Conceptual frame work**



The figure above explains the conceptual framework, in the independent variable like like diabetes, age, sex, obesity which are dependents considered as risks factors of hypertension some of these are unmodifiable like age and sex which is independent and dependent variable is hypertension there is also intermediate variable like poor family, overweight, eat too much salt and do not eat enough fruit and vegetables, do not do enough exercise, drink too much alcohol or coffee (or other caffeine-based drinks), smoke and do not get much sleep or have disturbed sleep which are modifiable risk factors of hypertension. The hypertension is prominent among patient attending to no communicable disease department and it concerning the age of patient, diabetes, sex and obesity which interfere some dependent variables.

## **2.7 Research Gaps**

Previous studies have been conducted on effects of hypertension among patients attending to non-communicable diseases department. Other studies have undertaken the Nursing Management of hypertension among patients attending to non-communicable diseases departments as well as difference between contribution of people and Hospital in reducing hypertension among patients attending to non-communicable diseases department but few studies have been assessment of factors associated with hypertension among patients attending to non communicable diseases department which really inspired present researchers to conduct research entitled “assessment of factors associated with hypertension among patients attending to non communicable diseases department”

## CHAPTER THREE: RESEARCH METHODOLOGY

### 3.0. INTRODUCTION

This chapter deals with research methodology which consist of research approach and research design, target population, sampling procedures and sample size, data collection instrument, validity and reliability of the data collection instrument, data collection process, data analysis and ethical considerations.

### 3.1. RESEARCH APPROCHES AND DESIGN

In this research, quantitative research was used and descriptive cross-sectional study design. Cross-sectional study design involves looking at data from a population at one specific point in time, quantitative research emphasizes objective measurement through data collection by using questionnaire.

### 3.2. TARGET POPULATION

The target population was 67 patients; the total population of hypertensive patients attending non-communicable disease at Bushenge provincial hospital.

### 3.3. SAMPLING PROCEDURE

Simple random sampling was used and was given an equal chance to all hypertensive patients attending non-communicable disease at Bushenge provincial hospital. They was given a written papers of countable number and each one was allowed to pick the number, then those who was picked an odd number was considered as participant in the study.

### 3.4. SAMPLE SIZE

The size of a sample influences two statistical properties: the precision of our estimates and the power of the study to draw conclusions. This might mean randomly selecting only, using Granular Formula (Israel, 1992) of sample size calculation in this study reads as follows: Sample size =  $\frac{N}{1+N(e)^2}$

Where n =Sample population

N=Total population

e=the standard margin of error at 90% confidence interval which is equal to 0.05

$$\begin{aligned}\text{Sample size} &= \frac{N}{1+N(e)^2} \\ &= \frac{67}{1+67(0.05)^2}\end{aligned}$$

$$\begin{aligned}
&= \frac{67}{1+67 \times 0.0025} \\
&= \frac{67}{1+0.1675} \\
&= \frac{67}{1.1675} \\
&= 57.3875 \approx 57 \text{ people}
\end{aligned}$$

### **3.5. RESEARCH INSTRUMENT FOR DATA COLLECTION**

Quantitative research methods was used in data collection, questionnaires was used. Others tools like papers, pens, pencils, erasers, pencil sharpeners, calculator machine.

The questionnaire was composed of four sections, section one was contained demographical data and section two was composed the questions related the prevalence of hypertension, section three was composed the questions related to factors associated with hypertension, section four was composed the questions related to the knowledge of patient about prevention of hypertension.

### **3.6. DATA COLLECTION AND PROCEDURES**

The questionnaire was translated from English to Kinyarwanda for better understanding of participants. The data was collected in 3 days, the first day was the day of receiving permission from the authorities (DG, head of department), collection of questionnaires used and explanation of timetable used, it was also the day of explanation about the objectives, the significance of the study. In the last 2 days, the questionnaires were distributed among the participants and the researchers was collected the questionnaires by considering nursing profession ethics.

### **3.7. ETHICAL ISSUES**

#### **Permission**

Letter of cooperation request was obtained from institution review of KP, department of Nursing Official letter of cooperation was written to hospital from department of Nursing and Midwifery of Bushenge provincial hospital.

### **Consent and confidentiality**

After obtaining permission from the hospital directors, &unit coordinators, informed (verbal) consents were obtained from the study participants, and participants was also provided with information about the objectives and expected outcomes of the study. Information obtained from individual participants was kept secure and confidential. Names and other identifying data of respondents made anonymous or eliminated throughout the study process to maintain confidentiality.

### **Beneficence and self- determination**

The participants were explained that they have the right to self -determination and the data was obtained are for research purposes only and was kept confidentiality. The questionnaire and the procedure to use when collecting the data was explained to the participants.

The researchers were sure that there is no potential risk from contribution and that everyone was have equal chance to be selected for the study to choose need sample. The participants were informed that there is no compensation in terms of money.

## **3.8. DATA ANALYSIS**

The researchers were used descriptive statics to analyses quantitative data, descriptive statics ran to address research questions, included frequencies, percentages, mean and standard deviation and was conducted to describe participants demographic. In this research Microsoft Excel was used.

## **3.9. RELIABILITY AND VALIDITY MEASURES**

### **Validity**

To ensure the validity of the instrument research, supervisor checked the questionnaire for the consistent for the items, intelligibility and clarity. His input was helpful to make necessary adjustment so that the instrument measures adequately what was intended to measures. In our study, validity was ensured when organizing the items of the questionnaire against the research objectives, the questionnaire was developed and approved to identify factors associated with hypertension among patient attending to NCDS at BPH and it was also be adapted to fit the Rwandan perspective and was fairly easy to read to all participants as well as making sure of the consistency of the collected data.

## **Reliability**

To make sure of the reliability of the questionnaire, a sample of participants with the same criteria of patient with hypertension from the health center of Bushenge was given the questionnaire to pre-test and check the consistency and believed proper fulfillment as well as adaptation to the questionnaire. In the data collection tool, we were avoid using complicated and confusing word and the questionnaire was possibly translated from English to Kinyarwanda language with understandable word. The researchers were conducted the pre-test of the questionnaire before conducting the main study.

## CHAPTER FOUR: DATA PRESENTATION, ANALYSIS, INTERPRENTATION AND SUMMARY

### 4.0. Introduction

This chapter was consist of data presentation according to research objectives and questionnaire related to research about the assessment of factors associated with hypertension among patients attending to non-communicable diseases department these data was analyzed by the table and figure on social demographic and related to specific objectives like the prevalence of hypertension among patients attending to non-communication diseases department, the risk factors of hypertension among patients attending to non- communicable diseases and the knowledge of patients about prevention of hypertension among patient attending to NCDS department at Bushenge provincial hospital

### 4.1. Social demographic of respondents

The table and figure below explain the demographic of respondents according to the gender, years, marital status, levels of education, hospital, the social activities, location, the parameter, and religion.

**Figure 4.1.2 Distribution of respondents on gender (n=57)**

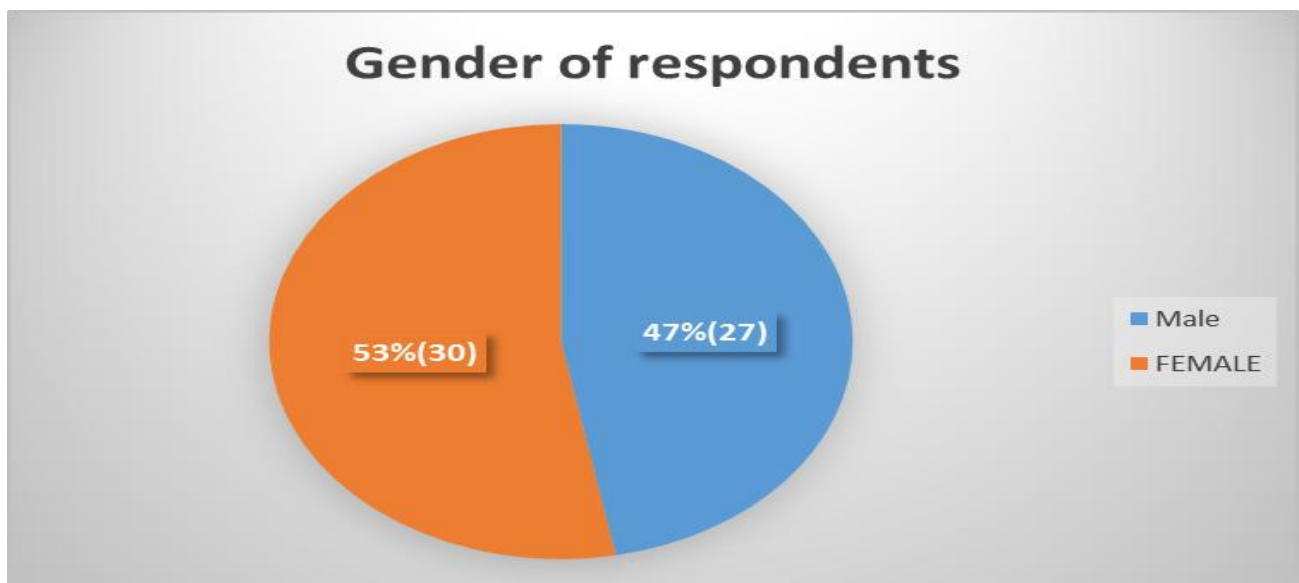


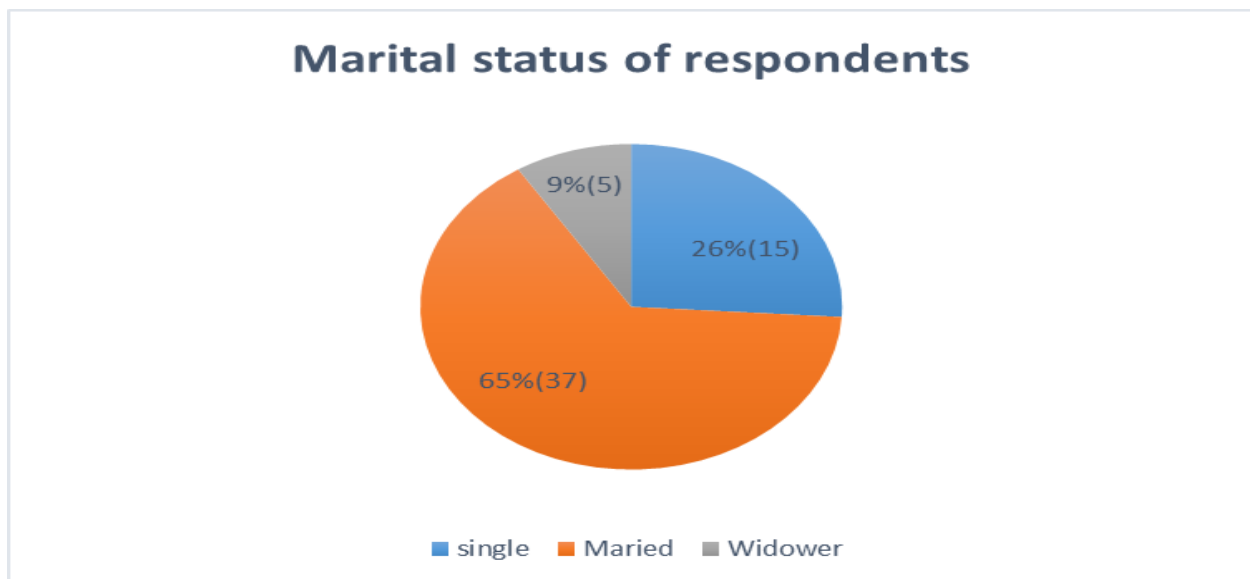
Figure above explain the gender of respondents according to the male 47 % (27) and female of 53 % (30), hence female was high than male.

**Table 4.1.1 Distribution of respondents according to age group (n=57)**

Age group	Frequency	Percentages
10-20 years	3	5%
21-30 years	5	9%
31-40 years	19	33%
Above 40 years	30	53%
<b>Total</b>	<b>57</b>	<b>100%</b>

The table above show the age group of respondents for 10-20 years was 3(5%), 21-30 years was 5(9%), 31-40 years was 19(33%) and above 40 years was 30(53%); hence the big number of respondent are in age group of above 40 years.

**Figure 4.1.3 Distribution of respondents related to marital status (n=57)**



The figure above explains the marital status of respondents, in single was 15(26%), married was 37(65%) and widower was 5(9%), the large number of respondents was married.



**Table 4.1.2 Distribution respondents according to the levels of education (n=57)**

<b>Level of Education</b>	<b>Frequency</b>	<b>Percentages</b>
Primary school	4	7%
Secondary school	25	44%
University school	15	26%
Rwanda polytechnic	10	18%
None	3	5%
<b>Total</b>	<b>57</b>	<b>100%</b>

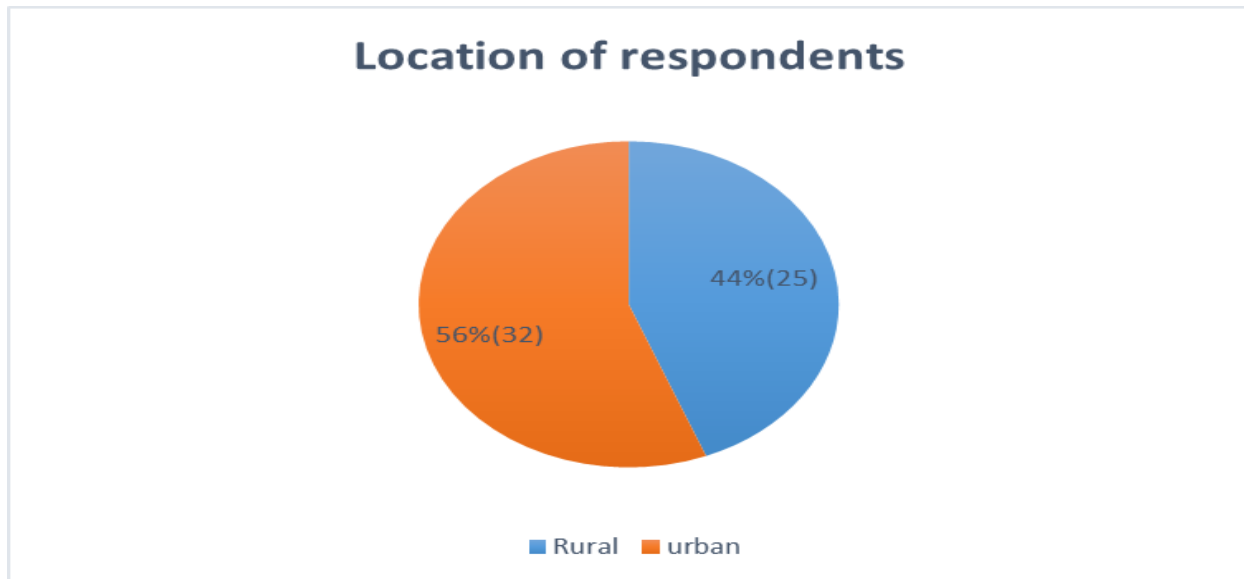
Table above show the education level of respondents which in primary was 4(7%), secondary was 25(44%), university was 15(26%), Rwanda polytechnic was 10(18%) and none was 3(5%). The large number of respondents was people who study the secondary schools.

**Table 4.1.3 Distribution of respondents according social activities (n=57)**

<b>Activities</b>	<b>Frequency</b>	<b>Percentages</b>
Farmer	30	53%
Public worker	10	17%
Worker of others	17	30%
<b>Total</b>	<b>57</b>	<b>100%</b>

Table above show the social activities of respondents, farmer was 30(53%), public worker was 10(17%) and worker of others 17(30%), the largest number was farmer.

**Figure 4.1.4. Distribution of respondents according to the location of respondents (n=57)**



The figure above show the location of respondents urban was 32(56%) and Rural was 25(44%) the large respondents was located in urban.

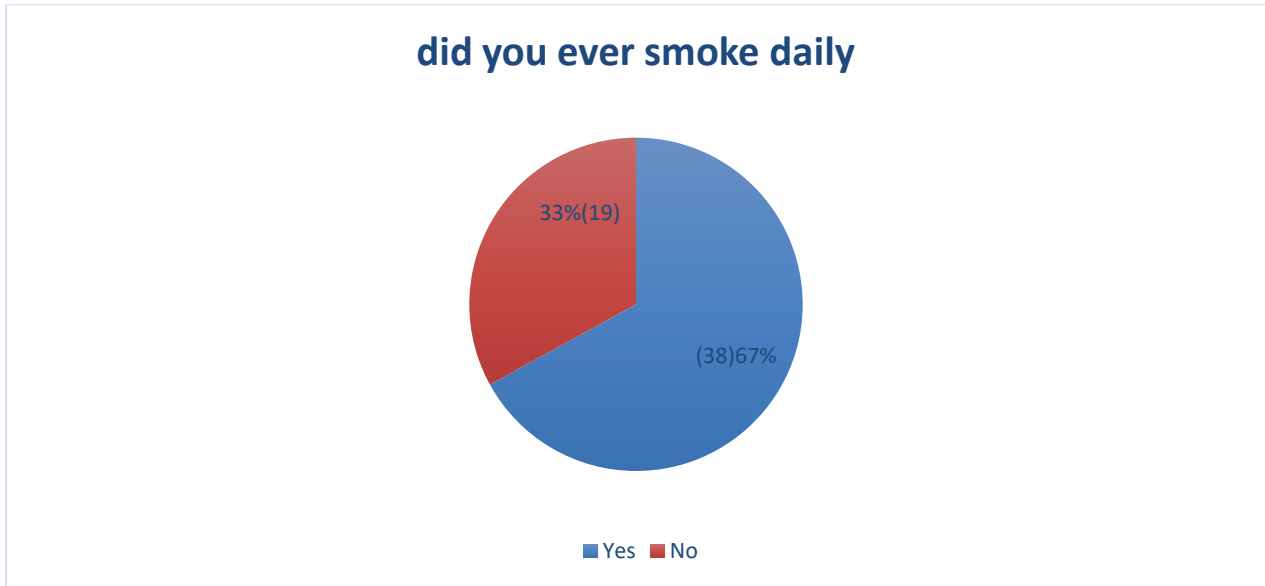
**Table 4.1.4 Distribution of respondents on religion (n=57)**

Religion	Frequency	Percentages
Mussulmen	15	26%
Catholique	12	21%
Protestant	30	53%
<b>Total</b>	<b>57</b>	<b>100%</b>

Table above show the religion of respondents which was Mussulmen 15(26%), Catholique 12(21%) and Protestant 30(53), hence the largest number of respondents was Protestant.

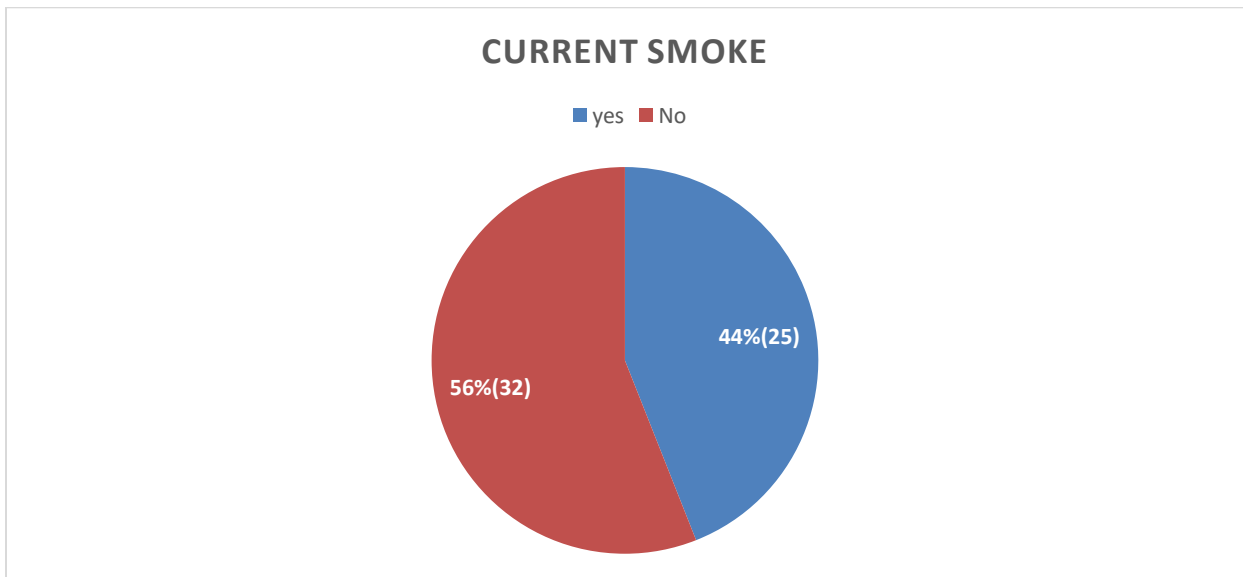
**4.2. Related to the risk factors of the hypertensive patients attending to non-communicable diseases department.**

**Figure 4.2.5 Distribution of respondents related to did you ever smoke daily (n=57)**



The figure above explains the views of respondents on did you ever smoke daily, saying no was 33 % (19) and saying yes was 67% (38),the largest number was yes.

**Figure 4.2.6 Distribution of respondents according to the currently smoke (n=57)**



The figure above explains the views of respondents on currently smoke, yes was 56% (32) and no 56% (32), the largest number was no.

**Table 4.2.5 Distribution of respondents related to time you are going to the hospital to check Hypertension Diseases (n=57)**

<b>Time</b>	<b>Frequency</b>	<b>Percentages</b>
<b>One week</b>	<b>3</b>	<b>5%</b>
<b>One month</b>	<b>19</b>	<b>33%</b>
<b>Two Months</b>	<b>20</b>	<b>35%</b>
<b>Six Months</b>	<b>10</b>	<b>18%</b>
<b>One Years</b>	<b>5</b>	<b>9%</b>
<b>Total</b>	<b>57</b>	<b>100%</b>

The table above show the time patient are going to the hospital of respondents, one week was 3(5%), one month was 19(33%), two months was 20(35%), six months was 10(18%) and one years was 5(9), hence the largest number of respondents was in the time of two month.

**Table 4.2.6 Distribution of respondents related to the eat fruits (n=57)**

<b>Eat fruits</b>	<b>Frequency</b>	<b>Percentages</b>
<b>YES</b>	<b>25</b>	<b>44%</b>
<b>NO</b>	<b>32</b>	<b>56%</b>
<b>Total</b>	<b>57</b>	<b>100%</b>

The table above show the views of respondents in the week, do you eat fruits, yes was 25(44%) and no was 32(56%), and hence largest number wasn't eaten fruits.

**Table 4.3.7 Distribution of respondents according to any chronic condition (n=57)**

<b>Any chronic Condition</b>	<b>Frequency</b>	<b>Percentages</b>
YES	30	53%
NO	27	47%
<b>Total</b>	<b>57</b>	<b>100%</b>

The table above show the any chronic condition of respondent, yes was 30(53%) and no was 27(47%), hence the largest respondents was yes.

**Table 4.3.8 Distribution of respondents related to diseases (n=57).**

<b>Diseases</b>	<b>Frequency</b>	<b>Percentages</b>
Diabetes	15	26%
Hepatitis B	7	12%
Hepatitis C	10	18%
HIV/AIDS	13	23%
Kidney Failure	7	12%
Other specific	5	9%
<b>TOTAL</b>	<b>57</b>	<b>100%</b>

Table above show the respondents views on the diseases course hypertension, in diabetes was 15(26%), Hepatitis C was 10(18%), Hepatitis B was 7(12%), HIV/AIDS was 13(23%), Kidney Failure was 7(12%) and Other specific was 5 (9%), hence the largest number of respondents was Diabetes.

**Table 4.3.9 Distribution of respondents related to the consumed an alcoholic drink (n=57)**

<b>Consumed an alcoholic drink</b>	<b>Frequency</b>	<b>Percentages</b>
YES	20	35%
NO	37	65%
<b>Total</b>	<b>57</b>	<b>100%</b>

The table above explain the consumed an alcoholic drink about the respondents yes was 20(35%) and no was 37(65%), the respondents saying no was high than yes.

**Table 4.3.10. Distribution of respondents according to the hypertension is good (n=57)**

<b>Good</b>	<b>Frequency</b>	<b>Percentages</b>
Yes	7	12%
No	50	88%
<b>Total</b>	<b>57</b>	<b>100%</b>

The table above show the respondents saying the hypertension among patients attending to non-communicable diseases department is good , yes was 7(12%) and no was 50(88%), the largest number of respondents was saying no.to non-communicable diseases department.

**Figure 4.4.7 Distribution of respondents according to the use any herbal or traditional remedy in your life (n=57)**

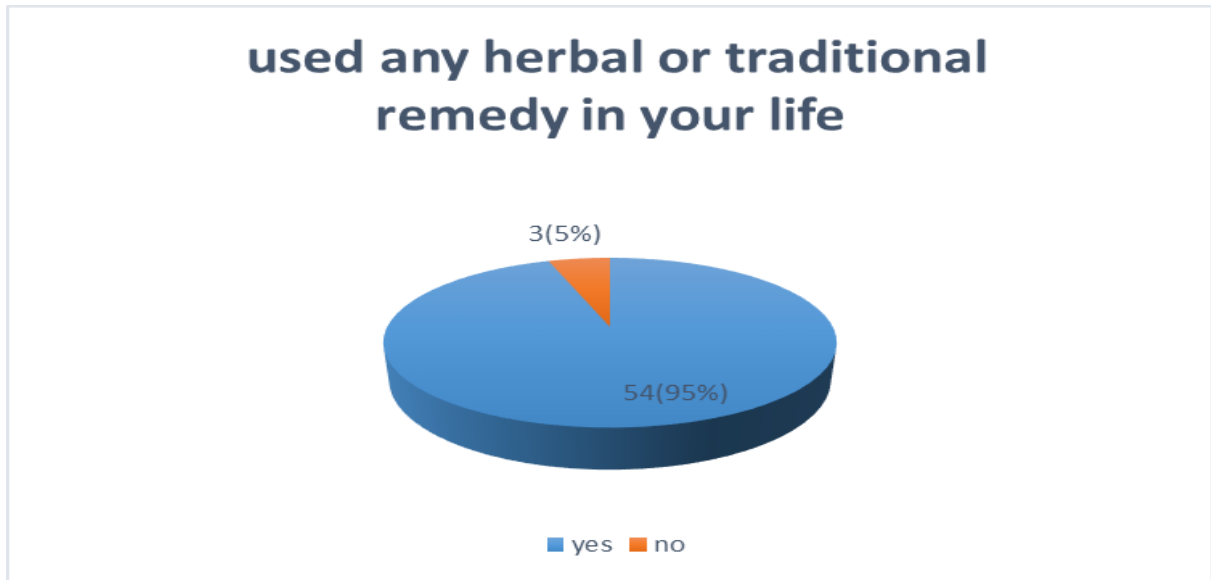


Figure above show the respondents according to use any herbal or traditional remedy in your life, yes was 54(95%) and no was 3(5%), hence the largest respondents was yes.

**Figure 4.4.8. Distribution of respondents according to the do you do some physical activities (n=57)**

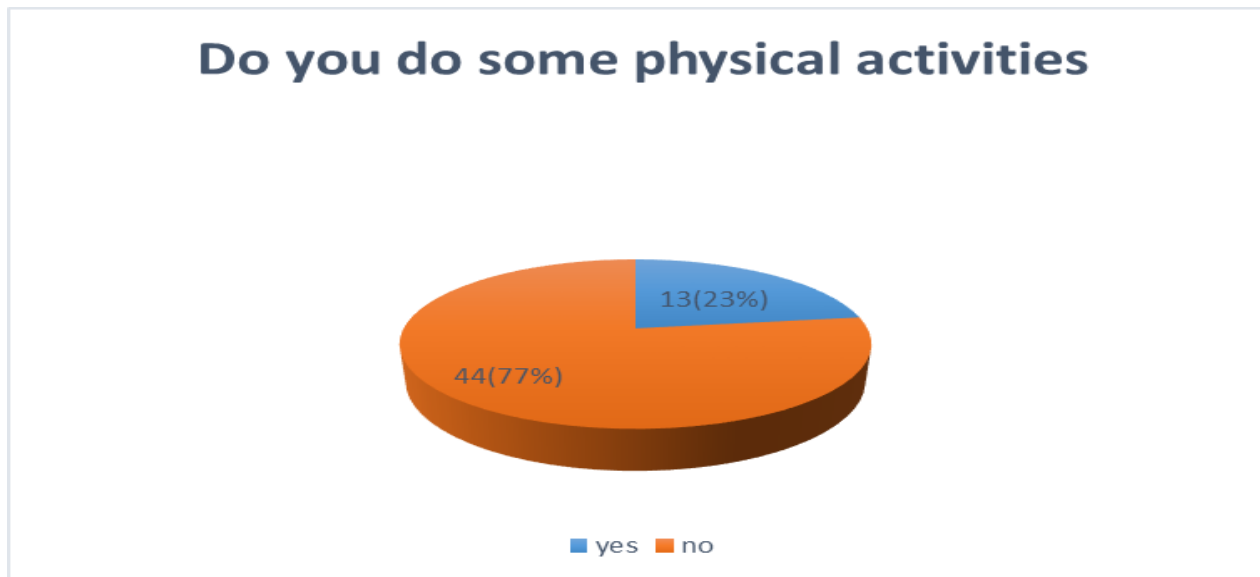
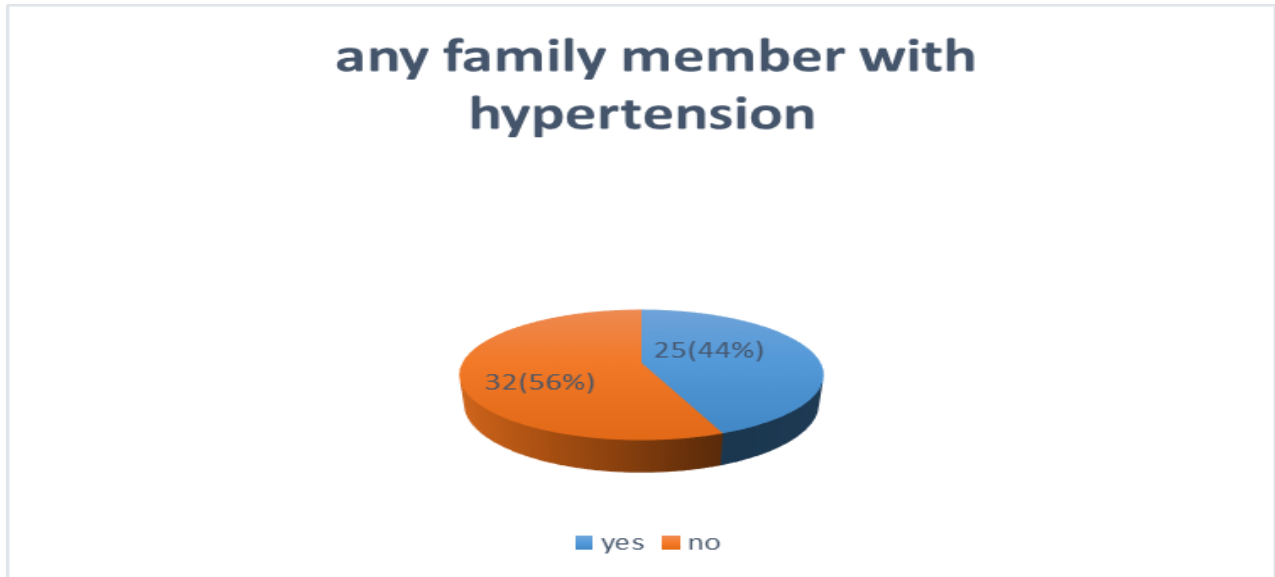


Figure above explain the ideas of respondents according to the do you do some physical activities, yes was 13(23%) and no was 44(77%), the largest respondents was saying no.

**Figure 4.4.9. Distribution of respondents according to any family member with hypertension (n=57)**



The figure above explain the respondents according to any family member with hypertension, yes was 25(44%) and no was 32(56%), hence the largest respondents was saying no.

**Figure 4.4.10. Distribution respondents according to do you have habit to prepare meal withvegetable(n=57)**

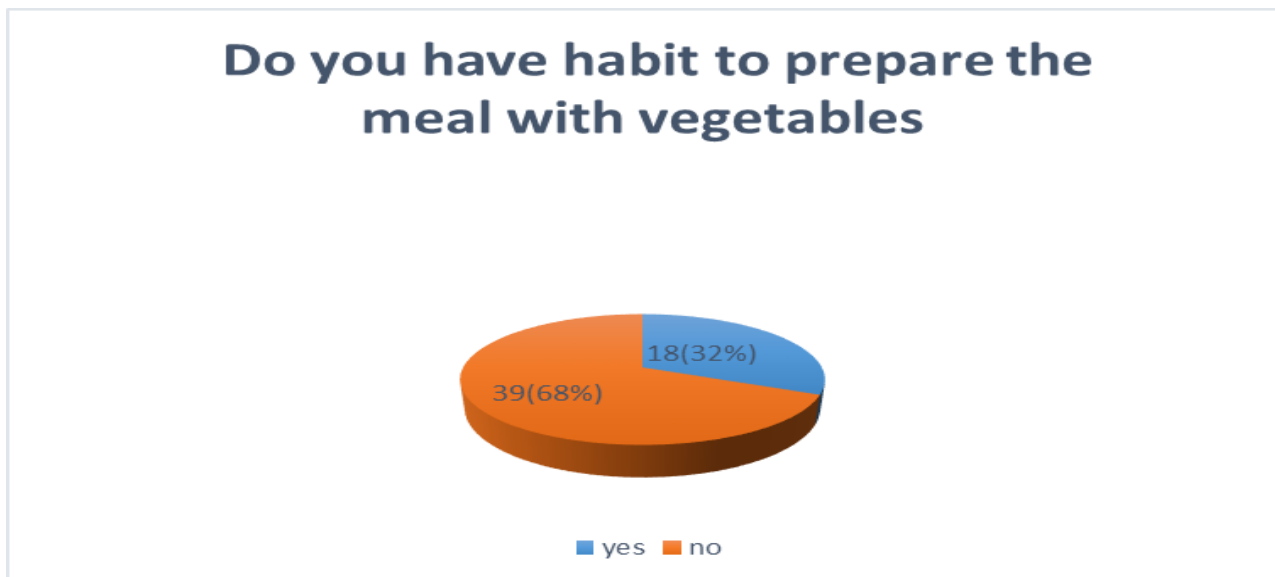




Figure above explain the respondents according to the do you have habit to prepare the meal with vegetables, yes was 18(32%) and no was 39(68%), the largest number of respondents was saying no.

#### **4.5. DISCUSSION OF FINDINGS**

##### **4.5.1. Related to the prevalence of hypertensive patients attending to non-communicable diseases department.**

According to the most (two-thirds) living in low- and middle-income countries, an estimated 46% of adults with hypertension are unaware that they have the condition, less than half of adults (42%) with hypertension are diagnosed and treated the condition as well, approximately 1 in 5 adults (21%) with hypertension have it under control, hypertension is a major cause of premature death worldwide, one of the global targets for non-communicable diseases is to reduce the prevalence of hypertension by 33% between 2010 and 2030 (WHO; 2021).related to our findings prevalence of those forms of hypertension is calculated by measuring the presence of hypertension in a sample of population selected randomly, then dividing the number of people with that form with hypertension by the number of people in whom it was measured. The prevalence is often expressed as percentage.  $\text{Number of people with hypertension} / \text{Number of people Measured} * 100 = \text{prevalence (as percentage)}$   $\text{Prevalence} = 57 / 131 * 100$ ,  $\text{Prevalence} = 43.5\%$

##### **4.5.2. Related to the risk factors of the hypertensive patients attending to non-communicable diseases department.**

According to among those taking medication 47.3% had controlled blood pressure, after adjusting for other determinants, older age was associated with increased hypertension prevalence, awareness, and treatment whereas primary education was associated with lower hypertension prevalence; health insurance was associated with lower hypertension prevalence and higher chances of treatment (Samson Okello,2020). Our research findings was showing the 38(67%) was people smoking daily and 32(56%) was people do not eating fruits, 30(53%) was people who have chronic condition, different disease like Diabetes, Hepatitis B, Hepatitis C , HIV/AIDS, Kidney failure hence in this diseases Diabetes have highest with percentage of 26%.

#### **4.5.3. The knowledge of patient about prevention of hypertension among patients attending to non-communicable diseases department.**

According to high cardiovascular risk (age  $\geq$  60 years and/or obese) had even higher prevalence of overall SH (29.6% and 24.9%, respectively) as well as undiagnosed/untreated SH (29.4% and 24.6%),SH prevalence was almost double in urban compared to rural areas (17.0% vs. 9.2%) however, conversely, undiagnosed SH will significantly higher in rural areas (50.4% vs. 21.9%) (BambaGaye, 2019).The findings show 95% was people using herbal or traditional remedy in life, 77% was people does not working physical exercises and 68% was people do not prepare the meal with vegetables.

#### **SUMMARY OF FINDINGS**

The study involved 57 people with hypertension disease, it is show that smoking and chronic diseases face factors associated with hypertension with smoking 56%, chronic disease53% and diabetes on high level of 26%. Concerning knowledge, the findings show that 95% was people using herbal or traditional remedy in life, 77% was people does not working physical exercises and 68% was people do not prepare the meal with vegetables.

## **CHAPTER FIVE CONCLUSION AND RECOMMENDATION**

### **5.1. Introduction**

This chapter was consist of the conclusion, recommendation and suggestions for further researchers about the assessment of factors associated with hypertension among patients attending to non -communicable diseases department.

### **5.2. Conclusion**

The study involved 57 people with hypertension disease, it is show that smoking and chronic diseases face factors associated with hypertension with smoking 56%, chronic disease53% and diabetes on high level of 26%. Concerning knowledge, the findings show that 95% was people using herbal or traditional remedy in life, 77% was people does not working physical exercises and 68% was people do not prepare the meal with vegetables.As conclusion hypertension diseases is diseases killing different people in daily, hence all people according to advice of nurses in good way this diseases was reduced.

### **5.3. RECOMMENDATIONS**

#### **5.3.1. To hospital**

Hospital should facilitates the nurses in campaign on mobilization of hypertension diseases in screening and treatment. People should be able to know the knowledge about hypertension diseases

#### **5.3.2. To patients**

Patients should respect to take medication as ordered.

### **5.4. Suggestions for further researchers**

The findings of the study was big reality on factors associated with hypertension among patients attending to non-communicable diseases department which require to be expanded more. It was

the same as system that we recommend others researchers to work on, the following areas are suggested for further study.

- ✧ Effect of hypertension among patients attending to non-communicable diseases department.
- ✧ Nursing management of hypertension among patients attending to non-communicable diseases department.
- ✧ Contribution of people and hospital in reducing hypertension among patients attending to non-communicable diseases department.

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## **APPENDICIES**

**APPENDICES 1: INTRODUCTORY LETTER**

**KIBOGORA POLYTECHNIC**

**FACULTY OF HEALTH SCIENCES**

**DEPARTMENT OF GENERAL NURSING**

Dear Sir,

We called NDIHOKUBWAYO Alice and TUYISHIME Vedastine; Our registration number are 2000974 and 2000983 students of Kibogora Polytechnic, Faculty of Health Sciences, and Department of General Nursing and you write this letter to humbly request you to allow our carry out our research in your institution.

We currently carrying a research entitled study about Assessment of factors associated with hypertension among patients attending to non-communicable diseases department at Bushenge - hospital. Case study: Bushenge - provincial hospital, period (2020-2022) for the sake of completing our Bachelor's Degree in General Nursing at Kibogora Polytechnic

We hereby request you to fill this questionnaire in order to get relevant information for this research. Your responses will be kept confidential and will be used for only the purpose stated above.

Your cooperation is our promotion

## **APPENDICES 2: QUESTIONNAIRE**

### **RESEARCH QUESTIONNAIRE**

This questionnaire is composed by three sections: section A, contains identification of patient, section B is short questions related to factors associated with hypertension, section C contains questions related to knowledge about prevention of hypertension, all questions must be compromised.

#### **SECTION A: Personal information**

1) What is your gender?

- a) Female
- b) Male

2) How old are you?

- a) 10-15 years
- b) 15-20 years
- c) 20-25 years
- d) 25-30 years

3) What is your marital status?

- a) Single
- b) Married
- c) widow/widower

4) What is the level of education?

- a) Primary school
- b) Secondary school
- c) University schools
- d) Rwanda polytechnic
- e) No schools

5) What is your hospital?

- a) Bushenge District Hospital
- b) Kibogora District Hospital
- c) Rutare Health Center
- d) Kibogora Health center

6) What is your Social activities?

- a) Farmer
- b) Public worker
- c) others

7) What is your living place?

- a) Rural
- b) Urban

8) What is your religion?

- a) Mussulmen
- b) Catholique
- c) Protestant

**SECTION B: THE RISK FACTORS OF THE HYPERTENSIVE PATIENTS  
ATTENDING TO NON-COMMUNICABLE DISEASES DEPARTMENT**

1) In the past, did you ever smoke daily?

- a) Yes
- b) No

2) Do you currently smoke?

- a) Yes
- b) No

3) In which time you are going to the hospital to check hypertension diseases?

- a) One week
- b) One month
- c) Two months
- d) Six months
- e) One Year

4) In the week, do you eat the fruits?

- a) Yes
- b) No

1) Do you have any chronic condition?

- a) Yes
- b) No

2) If answer is yes which one of them:

- a) Diabetes
- b) Hepatitis B
- c) Hepatitis C

d) HIV/AIDS

e) Kidney Failure

f) Others specific

3) Have you ever consumed an alcoholic drink?

a) Yes

b) No

4) The hypertension among patients attending to non-communicable diseases department is good?

a) Yes

c) No

**SECTIONC: THE KNOWLEDGE OF PATIENT ABOUT PREVENTION OF HYPERTENSION AMONG PATIENTS ATTENDING TO NON-COMMUNICABLE DISEASES DEPARTMENT**

1) Have you ever used any herbal or traditional remedy in your life?

a) Yes

b) No

2) Do you do some physical activities?

a) Yes

b) No

3) Did you have that any family member with hypertension?

a) Yes

b) No

4) Do you have habit to prepare the meal with vegetables?

a) Yes

b) No