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Hypertension Self-care practices and Associated Factors among Patients Attending Kirinda Hospital, Rwanda

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Abstract

Inadequate hypertension self-care practice lead to different health complication. The aim of the study was to know how hypertensive patients of Kirinda Hospital take care of themselves. Patients were asked information related to their self-care of hypertension. The characteristics associated with the self-care practices for hypertension were looked at. A cross-sectional study design using quantitative method was used. A Random sampling method was applied to select 199 patients as a representative sample size. A questionnaire was used to collect data. Data on containing frequencies and percentages of each variable were generated using Statistical Package for Social Sciences (SPSS) version 20.0. Analysis of correlations between self-care habits and a number of factors was carried out using chi-squere test. Multivariate statistical analysis was perfomed to assess the associations. The results show that the overall prevalence of good self-care practice for hypertension was 34.2%. The results analysis revealed low prevalence of selfcare practice of hypertension. Determinants associated with hypertension were Gender, marital status, how long do you diagnosed HTN (years), methods used to control hypertension, good exercise for hypertension control, medication adherence, dietary control habit and ability of alcohol consumption. Hospitals and other concerned institutions could make an effort to provide an improvement on the self-care practices for hypertension.

Keywords: *Hypertension*, *Self-care practices, Factors, Patients Attending, Rwanda*

1.0 Introduction

Hypertension is a chronic medical disease characterized by an abnormally high systolic blood pressure (≥ 140 mm Hg and/or a diastolic blood pressure (BP) ≥ 90 mm Hg (James et al., 2014). On a global scale, Hypertension is a major public health concern, impacting more than a quarter of the adult population worldwide (Mills et al., 2016). Furthermore, the number of people suffering from Hypertension continues to expand, and by 2025, the disease will affect an estimated of 1.56 billion people (Forouzanfar et al., 2017).

Uncontrolled Hypertension is a significant risk factor for renal disorders and cardiovascular disease (CVDs) (Danaei et al., 2014). Hypertension is responsible for over half of all stroke and heart disease fatalities (Forouzanfar et al., 2017; WHO, 2013). Hypertension complications are predicted to cause around 9.4 million deaths each year, accounting for 17% of all fatalities globally (Hien et al., 2018; Mohamed et al., 2018). Additionally, it leads to the loss of 143 million disability-related life years (Hien et al., 2018). Hypertension is the major cardiovascular disease risk factor for congestive heart failure, stroke, disability, myocardial infarction, and mortality (Carey, Calhoun, et al., 2018; WHO, 2019). Hypertension is a major risk factor for cardiovascular diseases, accounting for 45% worldwide death and morbidity (WHO, 2019). In most instances, this disease is asymptomatic until it is followed by myocardial infarction, stroke, vision issues, renal failure, and other complications (Klabunde, 2011; WHO, 2019).

Self-care measures for hypertension are critical actions that an individual undertakes in order to promote health or avert disease (Weber, 2019). Lifestyle adjustments (alcohol abstention, exercise, diet, and smoking cessation) and medication adherence are key components of hypertension self-care practices (Weber et al., 2014). Self-care measures for hypertension are vital to preventing and controlling hypertension (Weber et al., 2014). As provided by available evidence, adherence to self-care measures for hypertension improves the effectiveness of antihypertensive drugs, lowers BP, and decreases the complications and overall mortality associated with hypertension (Chobanian et al., 2016).

Hypertension was prevalent in Rwanda at 15.3% (95% CI: 14.6%–16.3%) of the population, with 14.4% (95% CI: 13.4%–15.5%) and 16.4% (95% CI: 15.1%–18.0%) among females and males, respectively. The prevalence of hypertension was more than twice that of individuals aged 44 and below (38.6%) in those aged 55–64 years (Nahimana *et al.*, 2018).

The Northern and Western (Kirinda District Hospital location) provinces were the most affected, while semi-urban areas had a higher prevalence of hypertension (18.6%) (Nahimana *et al.*, 2018).

The Heath Management Information System (HMIS) report from 2018 to 2021 showed that the hypertensive cases started to be many in the Kirinda District Hospital catchment area. In 2018 the prevalence of hypertensive cases was 3, 6%; in 2019; was 3,9% while in 2020; was 5,4% , In 2021; prevalence was 3,8%.

1.1 Problem Statement

Considering the availability of various effective pharmacologic and nonpharmacologic therapies, the global management of hypertension remains unsatisfactory (Weber, 2019). Numerous variables contribute to the poor management of hypertension, the most significant of which is non-adherence to hypertension self-care measures (Kumar Praveen & Halesh, 2017; Lee & Park, 2017). Patients' compliance with self-care activities is critical for hypertension management. However, many studies have shown that people don't follow through with self-care plans (Boima *et al.*, 2015). In rural Rwanda, hypertension, HIV, and streptococcal pharyngitis constitute the main drivers of cardiovascular risk. Blood pressure screening in asymptomatic individuals can help identify people with hypertension before they develop end-organ complications. Of course, screening will identify a spectrum of high- and low-risk patients. A strong chronic care system and risk-stratification protocols are needed to avoid overwhelming the fragile health infrastructure with patients who have low levels of hypertension that confer little risk of end-organ disease. Our goal in screening is to identify high-risk individuals who would not otherwise seek treatment before complications arise. Research on hypertension self-care habits and associated variables have been conducted in Rwanda but were scanty, not up to date and mainly focused in urban areas. The catchment area of Kirinda district hospital is characterized by rural area; where some population live in poor conditions, this bring to poor medical adherence. This led the researcher to study how patients at Rwanda's Kirinda Hospital care for their hypertension and related factors.

2.0 Literature Review

Theoretical Review

This non-communicable disease known as hypertension (often is high blood pressure) is a long-term problem. It exacerbates premature death, cardiovascular disease, kidney failure, stroke, and disability. It is most obvious in countries with underdeveloped health care systems, such as those with lower and medium income levels. A third predictor of life with a disability is hypertension (Menezes et al., 2016).

Hypertension exacerbates an individual's health concerns by altering his or her lifestyle and dietary habits. Antihypertensive drugs are costly and need regular use. Hypertension may potentially have long-term problems, including cerebrovascular accidents, heart failure, and renal failure. Due to the adverse consequences of hypertension, life expectancy for a person with high blood pressure is five years shorter than for a non-hypertensive person (Mirzaei *et al.*, 2020). Due to the mental and physical limits associated with hypertension, a patient's connections with family and friends, as well as their financial condition, may be significantly impacted (Brittain *et al.*, 2010).

A study of hypertension patients in India discovered that many did not regularly get their eye examinations or blood pressure due to a lack of awareness of risk factors, KAP, and associated comorbidities. Blood pressure should be measured at a 15-day or monthly interval in hypertensive individuals. Patients with high hypertension should have their eyes checked at least once or twice annually (Mahajan, 2018).

Only 18.6% of the population surveyed in Southwestern Nigeria were on blood pressure-lowering drugs, and only 6.7% had access to home monitoring equipment. Non-pharmacological therapies were rarely used to control hypertension, except for 51.8% of self-reported hypertensives who lowered their dietary salt use. None of them participated in a smoking cessation program, and none

were taking statins since their blood cholesterol levels had never been checked (Mahmud Ahmed & Belaye Teferi, 2020).

Literature has shown the benefits of blood pressure regulation in hypertensive individuals (Kitt *et al*., 2019). Blood pressure regulation has many advantages, including a lowered risk of CHD and stroke and a decreased risk of congestive heart failure and death (Bowling *et al*., 2019). Patients' perceived advantages of blood pressure regulation may help physicians and patients engage more effectively, resulting in greater treatment effectiveness (Bowling *et al*., 2019).

Self-practice for hypertension has been linked to long-term clinical advantages, which may be interpreted as reducing healthcare consumption and expenditures (Maciejewski *et al*., 2014). By comparing standard treatment to selfcare practices showed that 18 months after the study ended, patients improved their proportion of blood pressure control significantly more during and after the 18-month trial, an anticipated percentage of patients who took medication and changed their behavior had better blood pressure control. Therefore, the patterns in cost and usage were equal across all patients (Maciejewski *et al*., 2014). Adopting self-management strategies by hypertension patients is seen as an advantage because of the reduced financial load in management costs (Mileski *et al*., 2017).

Empirical Review

Research conducted in Nepal discovered that 80% of respondents practiced self-care connected to their own ailment, were nonsmokers, and drank alcohol infrequently. Most of them (74%) followed a low-fat diet and low salt. More than half (64%) reported engaging in regular physical activity, and 62% reported using various stress-reduction techniques. Likewise, 92% of them were taking their medicine consistently, but 10% of them were adjusting their prescription dosages on their own. 30% of them intended to discontinue their medication at any moment. It was excellent practice for 70% of them to check out regularly and 74% to routinely monitor their blood pressure (Carey, Muntner, *et al*., 2018).

In Indian research assessing hypertension patients' knowledge and lifestyle characteristics, around 63% were regular exercisers, whereas the remainder did not engage in exercise (37.00%). Females (66.0%) and males (66.60%) showed a similar tendency. Not exercising reasons include a lack of time due to foot and joint problems, a hectic schedule, and a lack of enthusiasm for exercising. Females and males exercised exclusively via brisk walking (Guddad *et al*., 2019).

In Korea, hypertension control, treatment, and awareness rates were 47%, 63% and 67%, respectively. However, among people with 20 and 39 years had treatment rate of 17% and 14%, respectively (Kim *et al*., 2021).

WHO reported that 27% of high blood pressure find in Africa. Hypertension therapy and management are severely lacking in Africa. Despite the fact that HTN is changeable and treatable, developing nations have a low level of knowledge regarding the treatment of HTN. In Rwanda, 15.3% of the population had hypertension, with 16.4% of men and 14.4% of women. The case was twice among those of 55-64 years old as it was in people aged 44 years old and younger (38.6%).

There was a 38.1% prevalence of hypertension in Nigeria across all ages. The North-Central, North-East, South-East, South-South, North-West, and South-West zones account for 20.9%, 27.5%, 26.8%, 52.8%, 44.6%, and 44.11%, respectively (Odili *et al*., 2020).

In this study participants reported poor self-care practices. Factors associated with hypertension self-care practice are marital status, education, source of self-care information, place for exercise, social support, and self-care agency.

People who were divorced (95% CI = 0.026, 0.508, AOR = 0.115) or who did not have access to reliable knowledge (95% CI=0.022, 0.322, AOR = 0.084) were less suitable for practice effective hypertension selfcare than those had access to reliable information. Participants who had easy access to physical activity (95% CI = 1.826, 4.825, AOR = 2.968), favorable social support (95% CI = 1.272, 3.821, AOR = 2.204), and centered on clergy instruction (95% CI = 1.064, 4.584, AOR = 2.209) were more likely to have good health (Ademe *et al*., 2019).

In healthcare institutions in Harar Town, Ethiopia, it was discovered that being younger than 60 years old (95% CI = 1.2, 9.3, adjusted odds ratio = 3.4), having formal education (95% CI = 1.3, 4.2, adjusted odds ratio = 2.3), and not having comorbidities (adjusted odds ratio = 1.8, 80% of total) (Hussen *et al*., 2020).

3.0 Methodology

A cross-sectional study design using quantitative method was used in this study. A Random sampling method was applied to select 199 patients as a representative sample size. A questionnaire was used to collect data. Data on containing frequencies and percentages of each variable were generated using Statistical Package for Social Sciences (SPSS) version 20.0. Analysis of correlations between self-care habits and a number of factors was carried out using chi-squere test. Multivariate statistical analysis was performed to assess the associations.

4.0 Results and Discussion

Demographic Information

Socio-demographics are positively or negatively affect daily control of HTN. Pearson Chi-Square test was used for testing those relationships as good practice depends on gender and martial status, which are independent variables.

Table 1: Socio-demographic characteristics and self-care practices of hypertension

Variables		Good practice (%)	Poor practice (%)	X^2 value	p-value
		Overall self-care practice			
Gender					
	Male	11 (5.5)	40 (20.1)		
	Female	57 (28.6)	91 (45.7)	**1.686**	**0.026**
Age groups					
	[20-40]	15 (7.5)	22 (11.1)		
	[41-60]	26 (13.1)	48 (24.1)		
	≥ 61	27 (13.6)	61 (30.7)	1.174	0.556
	Mean= 48.02, SD= ±11.8				
Education level					
	Not educated	20 (10.1)	36 (18.1)		
	Primary	28 (14.1)	60 (30.2)	2.706	0.439

	Secondary	13 (6.5)	29 (14.6)		
	University	7 (3.5)	6 (3.0)		
Marital status					
	Single	4 (2.0)	11 (5.5)		
	Married	42 (21.1)	27 (13.6)	**3.619**	**0.032**
	Divorced/separated	12 (6.0)	63 (31.7)		
	Widowed	10 (5.0)	30(15.1)		
Occupation					
	Domestic work	8 (4)	16 (8)		
	Civil servant	11(5.5)	12 (6.0)		
	Merchant	24 (12.1)	51 (25.6)		
	Farmer	25 (12.6)	52 (26.1)	2.17	0.538

The findings revealed that female applied self-care practice for hypertension than males with 57 (28.6%) and 11 (5.5%) respectively. Mean age was 48.02, with standard deviation of ±11.8, patients applied self-care practice than others were those aged more than 61 with 27 (13.6%) years old followed by those aged between 41 and 60 years old with 26 (13.1%) and those aged between 20 and 40 years old with 15 (7.5%). Regarding to education level of participants, those complete primary educations 28 (14.1%) and not educated 20 (10.1%) were more applied self-care practice, this is due to that many hypertension patients are oldest ones stop affected by history of country, they followed by those had secondary education 13 (6.5%) and university level 7 (3.5%). Concerning marital status, married patients 42 (21.1%) were more applied self-care practice followed by divorced/separated 12 (6.0%), widowed 10 (5%) and single 4 (2.0). Based to occupation, those working as Farmer 25 (12.6%) and merchants 24 (12.1%) were more applied self-care practice than others followed by civil servants 11 (5.5%) and Domestic work 8 (4%).

Prevalence of self-care practices for hypertension

Occurrence of given diseases and their control are not the same in different areas, figure 4.1 presents the level of self-care practice for hypertension among patients attending Kirinda district hospital.
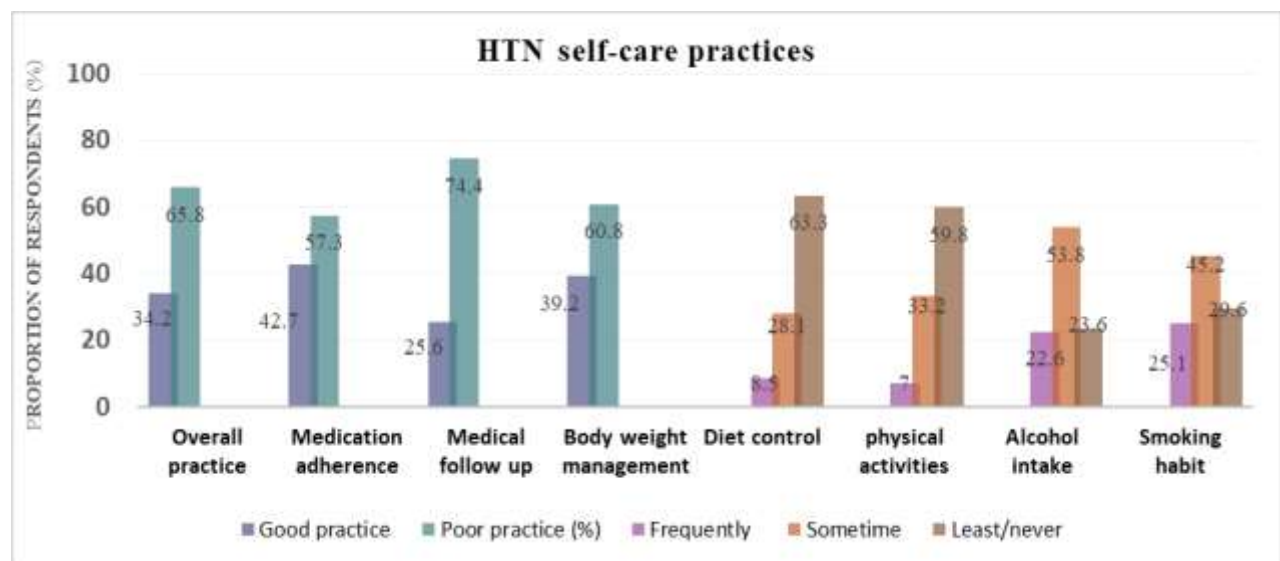
Figure 1: Prevalence of self-care practice for hypertension

As presented in figure 1, the overall prevalence of good self-care practice for hypertension was 34.2%, medication adherence is 42.7%, those applied medical follow-up as needed was 25.6%, and body weight management was applied at 39.2%. Regarding with diet control, physical activities, control of alcohol intake and control of smoking habit were least or never applied at 63.3%, 59.8%, 53.8%, and 45.2% respectively.

Factors related to Self-care practice for hypertension

The researcher was interested in self-care practices for hypertension control. The Pearson Chi-Square test was employed to examine the relationship between good practice and the independent variables shown in table 2. The factors have relationship with good practive for hypertension were medical adherence, dietary control habit and hability of alcohol consumption. Medical adherence was good and was associated with good selfcare practice for hypertension [AOR=1.478; 95%CI: 1.15-2.19; *p=0.048*], frequentry dietary control habit was significant with good selfcare practice [AOR=1.579; 95%CI: 1.29-2.05; p= 0.049] and never/least alcohol consumption was statisticaly significant with good selfcare practice toward hypertension [AOR=4.085; 95%CI: 1.37-5.21; p=0.013].

Bivariate analysis of self-care practices for hypertension

Table 2 Factors related to Self-care practice for hypertension

Variables		Self-care practice for HTN		
		OR	**95%CI** lower/Upper	p-value
Gender				
	Male	Reference		
	Female	1.866	1.34-2.56	0.022
Marital status				
	Single			
	Married	3.419	1.07-4.93	0.012
	Divorced/separated			
	Widowed			
How long do you diagnosed HTN (years)				
	< 1			
	[1-5]	1.683	1.08-2.05	0.029
	> 5			
Methods used to control hypertension				
	Dietary control			
	Drug therapy			
	Dietary control & drug therapy	2.413	1.35-3.72	0.012
	Drug therapy & regular exercise			
Good exercise for hypertension control				
	Aerobics (walking, jogging)	1.057	1.14-1.67	0.032
	Working			
	Aerobics and working			

Medication adherence			
Good	1.478	1.15-2.19	0.040
Poor			
Dietary control habit			
Frequently	1.579	1.29-2.05	0.042
Sometime			
Least/never			
Ability of alcohol consumption			
Frequently			
Sometime			
Never/least	4.085	1.37-5.21	0.023

The findings revealed that those with good self-care practices for hypertension used the following practices; approximately 42 (21.1%) had good medical adherence and good self-care practice. Nearly 41 (20.6%) used dietary control habits frequently, 7 (3.5%) used them occasionally, and 20 (10.1%) used them infrequently or never. Approximately 43 (21.6%) had no or limited ability to exercise, 3 (11.5%) had it frequently, and 22 (11.1%) had it occasionally. Only 27 people (13.6%) had good body weight management, while 41 people (20.6%) had poor body weight management. Around 63 (31.7%) had never self-monitoring their blood pressure, only 4 people (2.0%) monitored frequently and 1 (0.5%) sometime. Regular medical follow-up, only 16 people (8.0%) had good follow-up and 52 (26.1%) had poor follow-up. Roughly 42 (21.1%) never or least had ability of alcohol consumption, 16 (8.0%) consumed alcohol sometime and 10 (5.9%) frequently. Nearby 32 (16.1%) had ability of tobacco smoking sometime, 20 (10.1%) never smoked and 16 (8.0%) smoked frequently. Barriers towards self-testing for BP were challenges of test protocol 25 (12.6), lack of knowledge 18 (9.0), expensive (cost of device) 13 (6.5), unsuccessfully complete tests 8 (4.0) and 4 (2.0) reported no barrier. Regarding single most important done for controlling BP, the most and foremost highlighted by participants were salt reduction 25 (12.6%), diet stop HTN 15 (7.5%), medication rhythmic exercise 9 (4.5%), losing weight 8 (4.0%), less stress 9 (4.5%) and quitting or stopping smoking 2 (1.0%).

Knowledge toward hypertension

Awareness and knowledge of given diseases help in their control. Table 3 presents main knowledge of participants regarding hypertension and Pearson Chi-Square test was used for testing correlation between variables, this test was good due to good self-care practice depends on time exposed to HPT, methods used to control hypertension and good exercise for hypertension control as all are independents variables.

Table 3: Knowledge toward hypertension

	Overall self-care practice			
Variables	**Good (%)**	**Poor (%)**	**X^2 value**	**p-value**
How long do you diagnosed HTN (years)				
< 1	5 (2.5)	6 (3.0)		
[1-5]	51 (25.6)	100 (50.3)	**1.683**	**0.019**
> 5	12 (6.0)	25 (12.6)		
Source of health information				

Health professionals	27 (13.6)	22 (11.1)		
Mass media	26 (13.1)	48 (24.1)		
Family members	15 (7.5)	61 (30.7)	1.174	0.556
Family history of hypertension				
Agree	20 (10.1)	36 (18.1)		
Disagree	28 (14.1)	60 (30.2)	2.706	0.439
Risk factors of hypertension				
Stress	4 (2.0)	6 (3.0)	1.518	0.823
Aging	11 (5.5)	25 (12.6)		
Hereditary	2 (1.0)	4 (2.0)		
Physical inactivity	27 (13.6)	42 (21.1)		
Tobacco & alcohol	24 (12.1)	54 (27.1)		
Signs and symptoms of hypertension				
Severe headache	21 (10.6)	23 (11.6)		
Dizziness	16 (8.0)	38 (19.1)		
Nausea	31 (15.6)	70 (35.2)		
Severe headache and dizziness	68 (34.2)	131 (65.8)	4.633	0.099
Methods used to control hypertension				
Dietary control	7 (3.5)	15 (7.5)		
Drug therapy	8 (4.0)	13 (6.5)		
Dietary control & drug therapy	50 (25.1)	100 (50.3)	**2.913**	**0.022**
Drug therapy & regular exercise	3 (1.5)	3 (1.5)		
Good exercise for hypertension control				
Aerobics (walking, jogging)	49 (24.6)	101 (50.8)	**1.857**	**0.042**
Working	2 (1.0)	2 (1.0)		
Aerobics and working	17 (8.5)	28 (14.1)		

Regarding the duration of hypertension exposure, the findings revealed that the majority of participants (51%) were sick for a period of 1 to 5 years and were in good self-care practice, followed by those aged more than 5 years 12 (6.0%) and less than 1 years 5 (2.5%). Those sourcing information from health professionals were 15 (7.5%) followed by mass media 26 (13.1%) and family members 27 (13.6%), all of those were in good self-care practice for hypertension. About 20 (10.1%) were agreed with having family history of hypertension and were in good self-care practice for hypertension. The known risk factors of hypertension were physical inactivity, tobacco and alcohol reduction, aging, hereditary and stress 27 (13.6%), 24 (12.1%), 11 (5.5%), 2 (1.0%) and 4 (2.0%) all of them were applied self-care practice for hypertension likely. The most known signs and symptoms of hypertension were severe headache and dizziness, nausea, only severe headache and only dizziness with 68 (34.2%), 31 (15.6%), 21 (10.6%) and 16 (8.0%) respectively, the patients know these signs and symptoms were in applied self-care practice very good. Dietary control & drug therapy 50 (25.1%), drug therapy, 8 (4.0%), dietary control, 7 (3.5%) and drug therapy & regular exercise 3 (1.5%) were the most known methods used to control hypertension. Aerobics (walking, jogging), 49 (24.6%), aerobics and working 17 (8.5%), and only working 2 (1.0%) were the most appointed good exercise for hypertension control and had ability of self-care practice for hypertension.

Table 3: Knowledge toward hypertension

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	Good (%)	Poor (%)	X^2 value	p-value
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Aerobics and working	17 (8.5)	28 (14.1)		

Regarding the duration of hypertension exposure, the findings revealed that the majority of participants (51%) were sick for a period of 1 to 5 years and were in good self-care practice, followed by those aged more than 5 years 12 (6.0%) and less than 1 years 5 (2.5%). Those sourcing information from health professionals were 15 (7.5%) followed by mass media 26 (13.1%) and family members 27 (13.6%), all of those were in good self-care practice for hypertension. About 20 (10.1%) were agreed with having family history of hypertension and were in good self-care practice for hypertension. The known risk factors of hypertension were physical inactivity, tobacco

and alcohol reduction, aging, hereditary and stress 27 (13.6%), 24 (12.1%), 11 (5.5%), 2 (1.0%) and 4 (2.0%) all of them were applied self-care practice for hypertension likely.

The most known signs and symptoms of hypertension were severe headache and dizziness, nausea, only severe headache and only dizziness with 68 (34.2%), 31 (15.6%), 21 (10.6%) and 16 (8.0%) respectively, the patients know these signs and symptoms were in applied self-care practice very good. Dietary control & drug therapy 50 (25.1%), drug therapy, 8 (4.0%), dietary control, 7 (3.5%) and drug therapy & regular exercise 3 (1.5%) were the most known methods used to control hypertension. Aerobics (walking, jogging), 49 (24.6%), aerobics and working 17 (8.5%), and only working 2 (1.0%) were the most appointed good exercise for hypertension control and had ability of self-care practice for hypertension.

Discussion

The results from this study showed that the overall prevalence of good self-care practice for hypertension was 34.2%. This results are supported by a study conducted in Korea find out that hypertension self-control rates was 47% (Kim et al., 2021). Other research supporting the present finding was these conducted in Ethiopia, research on self-care habits and related variables in adult hypertension patients found that only 20.3 % practiced excellent self-care (Gebremichael et al., 2019).

In this study, medication adherence was 42.7%, this result is supported by Pakistan hospital study on hypertension self-care habits discovered that getting medicine was the most critical process (Bilal *et al*., 2015). Regarding with diet control in the present study it was 63.3%, thi reselts are in the same agreement with those conducted in Nepal where 74% followed a low-fat diet and lowsalt (Carey, Muntner, *et al*., 2018). In this study good application of physical activities was 59.8%, in Nepal 64% reported engaging in regular physical activity (Muntner, *et al*., 2018),

In the present study control of alcohol intake was 53.8%, and control of smoking habit was 45.2% were least or never applied. This is supported by the same study conducted in Nepal discovered that 80% of respondents practiced self-care connected to their own ailment, were nonsmokers, and drank alcohol infrequently (Carey, Muntner, *et al*., 2018). Other study conducted thailand reveared that just 70% of patients smoked (Aung et al., 2018). Research conducted in Ethiopia find that weight management, physical activity, dietary management, abstinence from alcohol, antihypertensive medication, and not smoking were found to be adhered to by 40.6 %, 49.4 %, 63.10 %, 67.20 %, 74.10 %, and 99.1 %, respectively (Gebremichael *et al*., 2019).

Married patients was statistically significant to self-care practice for HTN (21.1%) [AOR=3.619; 95%CI: 1.07-1.93; *p=0.032*] than single, divorced/separated and widowed patients with 2.0%, 6.0% and 5.0% respectively. Other study conducted in Ethiopia prove that people who were divorced (95% CI = 0.026, 0.508, AOR = 0.115) were less suitable to practice effective hypertension self-care than those who had access to reliable information (Ademe et al., 2019).

5.0 Conclusion

The prevalence of good self-care practice for hypertension was 34.2%. Factors had statistical significance with self-care practice for hypertension were: being females, married patients, patients exposed to hypertension for not more than five years but not less than one year, dietary control & drug therapy, aerobics (walking, jogging) activities, patients have a good medication adherence, patients had habit of controlling their diet and least or never alcohol consumption. The findings are very important as implication on implementation of special and intensive care for hypertension patients in Rwanda. Implementation of self-care practice program happened by introducing all possible needs for facilitating patients to take care themselves.

6.0 Recommendations

To the patients

- A patients should respect the visits to the hospital
- A patients must obey the posology of the given regimen and inform physician about side effects of the current regimen if any.
- A patient must know self-care practices and associated factors.

To the Mount Kenya University

As Mount Kenya University has department of public health; It should work with community health workers by giving training to increase their knowledge and skills on self-care practices in order to have knowledge on it and help hypertensive patients, to avoid some complications and improve self care management.

To kirinda district hospital

The hospital should ask help the concerned authorities where needed to improve health of the patients on time by giving Education on self-care practices show associated factors , because the hospital work in collaboration with local authorities and get accurate information about patients' daily health directly from the patient themselves.

To government

Most of the patients following from NCDs at Kirinda District Hospital are live in poverty and are not able to get necessaries to overcome challenges encountered in their daily life, the help they got should reach everyone, regularly and on time . It could be more helpful if all sex follow the therapy, because most of the patients following the therapy are females, though sensitization on the good effect of regular follow up must be increased.

For researchers

Due to the scope of the study and limitations encountered during my study, I was confined only to the hyertensive patients from NCDs at Kirinda district hospital. However, some other aspects or issues to study still exist like Diabetic patients, responsiveness to other medical drugs besides, many other body organ functioning must be assessed to increase life span of a patient. Thus, the researcher encourages other research initiatives to continue further research for much more aspects.

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