

**SELF-MANAGEMENT OF HYPERTENSION AMONG ELDERLY PATIENTS IN A
TERTIARY HEALTH INSTITUTION IN BENIN CITY, EDO STATE**

BY

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**A PROJECT SUBMITTED TO THE DEPARTMENT OF NURSING SCIENCE,
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DEDICATION

This project is dedicated to God almighty whose grace and mercy kept me through the course of this study.

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LIST OF ABBREVIATIONS

| | |
|------|---------------------------|
| WHO | World Health Organization |
| HT | Hypertension |
| HBP | High Blood Pressure |
| BP | Blood Pressure |
| SBP | Systolic Blood Pressure |
| CVD | Cardiovascular Disease |
| TVSE | To Very Small Extent |
| TSE | To Small Extent |
| TGE | To Great Extent |
| TVGE | To Very Great Extent |

ABSTRACT

This study elicits self-management of hypertension among elderly patients in a tertiary health institution in Benin City, Edo State. The aim of this study is to ascertain the self-management behaviors the elderly hypertensive patients in University of Benin Teaching Hospital. It employed a cross-sectional survey design by administering a well structured questioner to two hundred and sixty nine (269) hypertensive patients in university of Benin teaching hospital. The respondents were selected using random sampling and subjected to statistical analysis. The data set from the administered questionnaire was analysed using descriptive and inferential statistical and the level of significance was set at $p < 0.05$. Analysis of the data was presented with descriptive statistics using tables and means to represent information. The result of the findings revealed that 30% had poor knowledge, majority 50.7% had fair knowledge, 38.1% had good knowledge of hypertension. 20.9% of respondents had poor level practice of hypertension self management, 23.1% had a fair level of practice while majority 56% had good knowledge of hypertension self management. This study recommends that good knowledge of hypertension help in self management therefore health providers should create awareness to enlighten hypertensive patients on their self management.

Keywords: *Awareness, Hypertension, Knowledge, Practice, Self-management*

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Throughout the world, human health is being shaped by the same powerful forces: demographic ageing, rapid urbanization, and the globalization of unhealthy lifestyles. One of the most striking examples of this shift is non-communicable diseases such as cardiovascular disease. One of the key risk factors for cardiovascular disease is hypertension. Hypertension is a silent, invisible killer that rarely causes symptoms. Raised blood pressure is a serious warning sign that significant lifestyle changes are urgently needed. Hypertension is a major worldwide public health problem because of its high prevalence with vascular disease, premature death, stroke, renal diseases and retinopathy. It is the most important risk factor for cardiovascular diseases which kill about 12 million annually worldwide, more than any other disease. (Kalpana & Ranjita, 2017)

According to American Heart Association [AHA] (2018), the estimated prevalence of hypertension is about 103 million in adults and with the prevalence of high blood pressure is expected to continue to increase. The death rate from high blood pressure increased by nearly 11 percent in the United States between 2005-2015, and actual number rose by almost 38% up to nearly 79000 by 2015, according to statistics. Poorly controlled hypertension is a significant public health concern all over the world, in terms of morbidity, mortality and economic burden especially among older adults. Worldwide, hypertension affect nearly a third of the adult population and is the most common cause of cardiovascular diseases related deaths. Hypertension is defined as a medical condition in which the blood pressure in the arteries is elevated exceeding 140 over 90 mmHg. This elevation makes the heart work harder than usual to

circulate blood through the blood vessels. Many patients suffer from this disease are not aware about this condition early because it is usually occur without any symptoms (Sahem & Samira, 2015)

Hypertension is a medical condition that significantly increases the risk of heart attack, stroke, kidney failure and blindness. It is one of the leading causes of premature death worldwide. Of the estimated 1.13 billion people who have hypertension, fewer than 1 in 5 have it under control. The main contributors to the rise in hypertension are unhealthy diets, physical inactivity and the consumption of alcohol and tobacco. To achieve the global target to reduce the prevalence of hypertension by 25% by 2025, WHO and the United States Centers for Disease Control and Prevention launched the Global Hearts Initiative in 2016. With its five technical packages – HEARTS (manage cardiovascular diseases), MPOWER (control tobacco), ACTIVE (increase physical activity), SHAKE (reduce salt consumption) and REPLACE (eliminate trans- fat) – the Initiative aims to improve heart health worldwide. The HEARTS technical package itself gives guidance on more effectively detecting and treating people with hypertension in primary health care (WHO, 2019). Self-care can be defined as the capability of people, families, and communities to take part in health promotion and protection, disease prevention, and dealing with illness and disability either with or without the support of a health care provide. Thus, the Joint National Committee on the prevention, detection, evaluation, and treatment of high blood pressure provides six self-care behavior recommendations considered to be vital to control high blood pressure: 1, compliance with medication regimens; 2, involvement in physical activities; 3, healthy diets low in fat and salt, similar to dietary approaches to stop hypertension (DASH); 4, maintaining a healthy weight; 5, reducing alcohol consumption; and 6, avoidance of tobacco.

Moreover, various studies have reported self-care behaviors as one of the main factors for controlling high blood pressure (Sayed, Chaman, Sadehi & Eslami, 2015).

Therefore, the aim of this study is to determine the perception of the elderly towards self-management of hypertension in a tertiary institution, Edo state.

1.2 Statement of Problem

In spite of medical treatment of hypertension with drugs, it is been observe that prevalence of hypertension is still on the increase, statistically there are 37.6% hypertensive patients within Benin metropolis (Isara & Okundia, 2015) and in most cases it is even diagnosed late which prone the individual to risk of complications. One of the ways of combating this condition is through life style modifications and self-care management, but many patients seen in this environment are elderly and they are most vulnerable and not as active as other age group. Modifications like exercises, going for regular checkup in the hospital especially when there is no close by health facility or relatives to take them to the hospital are hard to adhere to, and this may result in other health problems e.g. stroke, heart failure if not properly handled. From research and personal experiences, it was observed that with constant monitoring of blood pressure, and adherence to antihypertensive medication, elevated blood pressure was properly controlled and complications averted. There has been a limited study done to assess the level of self-management of hypertension among the elderly patients in a tertiary health institution in Benin City. This therefore prompted the researcher to investigate the self-management of hypertension among elderly patients in University of Benin Teaching Hospital, Benin-city, Edo State.

1.3 Objectives of the Study

The main objective of this study is to assess self-management of hypertension among elderly patients in a tertiary health institution in Edo state.

The specific objectives of this study are to:

1. Determine the knowledge of hypertension among elderly hypertensive patient in University of Benin Teaching Hospital.
2. Assess the knowledge of self-management among patients with hypertension in University of Benin Teaching Hospital.
3. Ascertain the practice of self-management (weight loss and exercise, dietary changes, pharmacological adherence, limit alcohol intake, quit smoking, stress management, constant blood pressure monitoring) among the elderly hypertensive patients in University of Benin Teaching Hospital.

1.4 Research Questions

1. What is the level of knowledge of hypertension disease among the elderly hypertensive patient?
2. What is the level of knowledge of self-management among patients with hypertension?
3. What are the self-management practices (weight loss and exercise, dietary changes, pharmacological adherence, limit alcohol intake, quit smoking, stress management, constant blood pressure monitoring) among the elderly hypertensive patient?

1.5 Research Hypothesis

There is no significant relationship between awareness of self-care management and the practice self-care management of hypertension among elderly patient.

1.6 Significance of the Study

This study cuts across areas of Nursing practice, Nursing education and the society, Nursing is a profession that focuses on care of individuals, families and communities to achieve optimum health and help patient especially the elderly to attain wellness through health education .Nurses are the first to come in contact with patients and it is important that they have good communication skills, establish a nurse- patient relationship to gain trust of patients. These patients with hypertension have right to health education in order to make informed decisions towards healthy living, it will also enlighten the patients of the importance and effectiveness of self- management of hypertension to reduce complications and mortality rate. The result of the study will also be useful as a baseline information to enable the health care providers to act and provide adequate care for patients especially during emergency cases and also inform and teach patients and elderly with hypertension that early detection i.e. constant checking of blood pressure and treatment of hypertension is the key to effective management. It will increase the knowledge of the health care provider on hypertension and complications and how to render effective management to elderly hypertensive patients since they are more vulnerable and also make them take responsibility for their health

The outcome from this study will create opportunity for nurses to strengthen the profession's influence on health promotion through nursing education, promote and educate the public, assist individuals and communities to a long lasting health behavior.

1.7 Scope of the Study

This study focuses on the elderly hypertensive patients attending Out-Patient Clinic in University of Benin Teaching Hospital, Benin City.

1.8 Operational Definition of Terms

Hypertension: This is also known as high blood pressure, it is a transitory (short-lived) or chronic elevation of the blood pressure in the arteries when it's above 140/90mmHg.

Self-management: This is management of or by oneself; the taking of responsibility for one's own behavior and well-being E.g (weight loss and exercise, dietary changes, pharmacological adherence, limit alcohol intake, quit smoking, stress management, constant blood pressure monitoring)

Elderly: This has been defined as a chronological age of 60 years old or older, while from 65 to 74 years old are referred to as "early elderly" and those over 75years old as "late elderly".

Knowledge: Awareness or familiarity gain by experience of a fact or situation.

Practice: The act of doing something again and again in order to learn and improve one's behaviour

Patient: A person receiving or registered to receive medical treatment in a health facility.

CHAPTER TWO

LITERATURE REVIEW

This chapter will focus on related literature review under the following headings;

Conceptual review, theoretical review and empirical review from textbooks, published and unpublished articles and journals

2.1 CONCEPTUAL REVIEW

2.1.1 Hypertension

Hypertension is a medical condition in which the blood pressure in the arteries is elevated exceeding 140 over 90 mmHg. This elevation makes the heart work harder than usual to circulate blood through the blood vessels. Many patients who suffer from this disease are not aware about this condition early because it usually occur without any symptoms (Sahem and Samira, 2015). Hypertension is a condition that affects most of the population throughout the world and is a leading cause of morbidity and mortality. Hypertension related knowledge and practice such as life style modification, physical activity, nutrition etc. plays an important role in controlling and preventing its long-term complications of hypertension (Ranjita Karmacharya, 2017)

2.1.2 Types of Hypertension

Essential Hypertension or primary hypertension: In as many as 95% of reported high blood pressure cases in the world the underlying cause cannot be determined. This type of high blood pressure is called "essential hypertension." Though essential hypertension remains somewhat mysterious, it has been linked to certain risk factors. High blood pressure tends to run in families

and is more likely to affect men than women. Age and race also play a role. In the United States, blacks are twice as likely as whites to have high blood pressure, although the gap begins to narrow around age 44. After age 65, black women have the highest incidence of high blood pressure. The majority of all people with high blood pressure is "salt sensitive," meaning that anything more than the minimal bodily need for salt is too much for them and increases their blood pressure. Other factors that can raise the risk of having essential hypertension include obesity; diabetes; stress; insufficient intake of potassium, calcium, and magnesium; lack of physical activity; and chronic alcohol consumption.

Secondary Hypertension: When a direct cause for high blood pressure can be identified, the condition is described as secondary hypertension. Among the known causes of secondary hypertension, kidney disease ranks highest. Hypertension can also be triggered by tumors or other abnormalities that cause the adrenal glands (small glands that sit at the top the kidneys) to secrete excess amounts of the hormones that elevate blood pressure. Birth control pills specifically those containing estrogen and progesteron can boost blood pressure, and medications that constrict blood vessels.

2.1.3 Causes of High Blood Pressure

The exact causes of high blood pressure are not known, but several factors and conditions may play a role in its development, including:

Smoking, overweight or obese, lack of physical activity, too much salt in the diet, too much alcohol consumption (more than 1 to 2 drinks per day), stress, older age ,family history of high blood pressure, chronic kidney disease, adrenal and thyroid disorders, genetics.

2.1.4 Signs and Symptoms

If your blood pressure is extremely high, there may be certain symptoms to look out for, including:

Severe headache, fatigue or confusion, vision problems, chest pain, difficulty breathing, Irregular heartbeat, blood in the urine, pounding in your chest, neck, or ears.

2.1.5 Self-care Concept

WHO (2019), defines self-care as “the ability of individuals, families and communities to promote health, prevent disease, maintain health, and to cope with illness and disability with or without the support of a health care provider”.

The scope of self-care as described in this definition includes health promotion; disease prevention and control; self-medication; providing care to dependent persons; seeking hospital/specialist care if necessary; and rehabilitation including palliative care. Inherent in the concept is the recognition that whatever factors and processes may determine behaviour, and whether or not self-care is effective and interfaces appropriately with professional care, it is the individual person who acts (or does not act) to preserve health or respond to symptoms. Self-care is broad concept which also encompasses hygiene (general and personal); nutrition (type and quality of food eaten); lifestyle (sporting activities, leisure, etc.); environmental factors (living conditions, social habits, etc.); socioeconomic factors (income level, cultural beliefs, etc.); and self-medication. Core principles: Fundamental principles for self-care include aspects of the individual (e.g. self-reliance, empowerment, autonomy, personal responsibility, self-efficacy) as

well as the greater community (e.g. community participation, community involvement, community empowerment).

2.1.6 Concept of self-Care Management

The concept of self-management is understood both as an educative process and an outcome. As an educative process, self-management programmes include: participation in education designed to bring about specific outcomes; preparation of individuals to manage their health conditions on a day-to-day basis; the practice of specific behaviour; and the development of skills and abilities needed to reduce the physical and emotional impact of illness, with or without the collaboration of the healthcare team. In health care, self-management refers to the individual's ability to manage the symptoms, treatment, physical and psychosocial consequences and the lifestyle changes inherent in living with a chronic condition. Efficacious self-management encompasses ability to monitor one's condition and to achieve the cognitive, behavioural and emotional responses necessary to maintain a satisfactory quality of life. Self-management is well known in the field of health and social care, the term is linked with models of coping with adversity through self-help, self-reliance, and family and community reliance. The emergence and development of self-management programmes can be attributed to:

1. The growth of policy-makers' interest in self-care and lay-led self-management approaches to living with chronic illness.
2. The increasing numbers of people seeking to control their own approaches to living with illness with or without the help of medical practitioners and other professionals.

3. An increase in awareness of the need to address chronic illnesses, and employ self-management and other approaches to minimize the distress and other cost that they impose.
4. The belief that promoting self-management and helping individuals to manage potentially disabling conditions better may well have the potential to help them enhance their quality of life.
5. The process of demographic and epidemiological transition, along with the emergence of new attitudes towards health care delivery, which have been the main drivers of self-management in health care.

According to Leary (2019), the concept of self-management when it comes to illness may be confused with programs or classes designed to assist people in managing a disease. But self-management is what people do to manage everyday life within the context of a disease usually a chronic condition. Self-management assumes the person is active in the process. Though self-management often is related to chronic disease, it can be applied to acute illnesses, as well as to prevention and wellness.

Disease self-management may best be described as a collection of tasks an individual undertakes to live well with one or more disease conditions. “Self-management Education: History, Definition, Outcomes, and Mechanisms,” refer to three sets of tasks: medical management, changing or maintaining meaningful behaviors and roles, and dealing with the emotions of having an illness—including fear, anger, depression and frustration. Such tasks include gaining an understanding of the disease, developing the confidence to manage treatment regimens,

learning problem-solving skills, making and maintaining necessary lifestyle changes and coping with emotions that may accompany the condition, including seeking professional help.

Self-management can also be viewed across a continuum, from wellness to advanced disease. A person is self-managing when they make regular medical visits and take medications as prescribed. Self-management frequently becomes more complicated as a disease progresses. This may require more changes or greater efforts in order to manage daily life, such as changing usual activities that one can no longer do, or finding additional support to manage the disease, such as classes and counselors.

Enhancing and supporting self-management can happen through resources such as disease self-management programs and classes, medical team consultation, including consulting with chronic disease case managers, or counseling for emotional issues related to life changes or loss caused by the disease.

Chronic disease self-management programs or supports systematically provide education and support interventions, often linked to healthcare staff. These types of programs focus on increasing the patient's skills and confidence in managing their health problems, goal-setting and problem-solving support. More specific goals may focus on aspects of a particular disease, such as pain management for arthritis.

Considering that self-management is active, the focus of self-management programs is on the individual and their definition of their needs and problems—what do they need to do to manage the challenges of their disease in their daily life?

As the population ages, more people are living longer with chronic diseases. Self-management alone cannot improve the course of chronic disease, but needs to be part of the framework. A good example is the Chronic Care Model is about “Improving Chronic Illness Care: Translating Evidence into Action”

This model includes the patient, the healthcare system and the community. Here the person is viewed as an informed and active partner with their healthcare provider; the healthcare system has ways to support the provider and the patient; and there are links with the community that support self-management.

This type of model actively promotes and supports healthy self-management and links to community resources for people with chronic disease.

THEORITICALFRAMEWORK

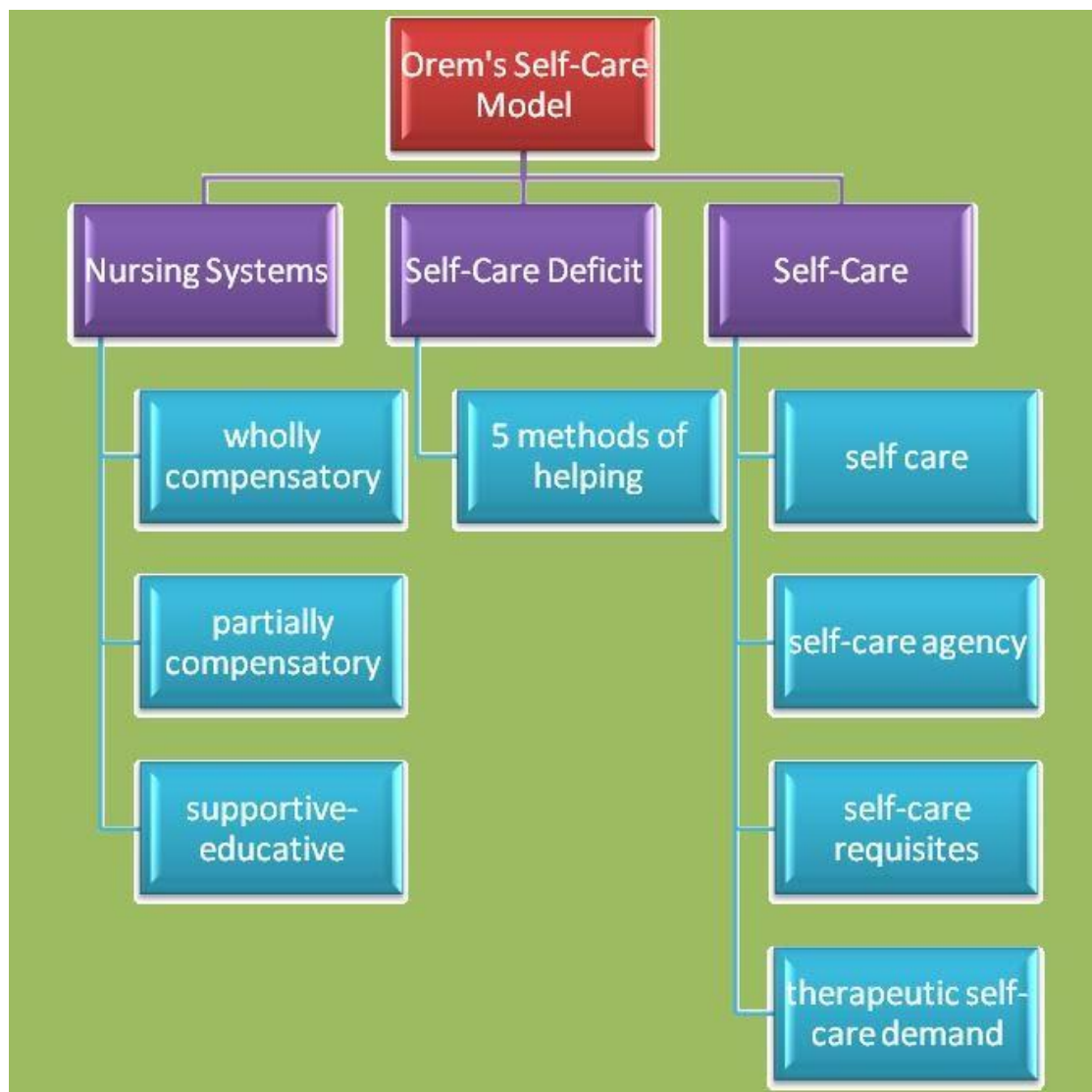


Figure 2.1 Orem's Self-Care Model

Orem's Self-care theory of nursing chosen to guide this study, it was developed in 1971 by Dorothea Orem. Orem's self-management theory is composed of 3 inter - related theories namely: theories of self-management, self-management deficit and nursing systems. Concepts contained in this theory include self-management, self-management agency, basic conditioning factors and

therapeutic self-management demands. Orem defined self-care as the performance or practice of activities that individuals initiate and perform on their own behalf to maintain life, health and wellbeing (Younas, 2017). When self-management is effectively performed, it helps to maintain structural integrity and human functioning and contributes to human development.

Orem defined self-management agency as the human's acquired ability or power to engage in self-management. This acquired ability is affected by basic conditioning factors such as age, gender, developmental state, health states, socio cultural factors and resource adequacy and availability (Berman, *et al.*, 2018). An individual who performs this self-management independently is called a self-management agent while a person other than the individual who provides the care is called a dependent care agent.

Self-management needs (requisites) are the reason for which self-management is undertaken or the desired results (Younas, 2017) the 3 categories of this self-management needs include: universal self-management needs. These are activities common to all human beings and include maintaining intake and elimination of air, water, food, excretion, balancing rest and activity, solitude and social interaction, preventing hazards to life and wellbeing and promoting normal human functioning. The ability to carry these out will depend on age, developmental state, life experience and socio-cultural orientation (Younas, 2017).

Developmental need (requisites) result from maturation, conditions or events that took place in the individual's life like adjusting to a change in body image after mastectomy, amputation or to the loss of a spouse. Health deviation needs occur when there is illness, injury or disease or its treatment (e.g. hypertension and its treatment). When disease or injury occurs, it results to changes in the individual's body structure, physical functioning, behavior or his activities of daily living. With this alteration, the individual makes added demand for self-management

(Berman, *et al.*, 2018). When there is any known self-management demand beyond capacity of the self-management agent, self-management deficit occurs (Younas, 2017). Nurses and family members help people to meet up with this self-management deficit.

Application of the theory to the study

Orem's Self Care Model is one of the most complete self-care theories that provide a good clinical guide for planning and implementing the principles of good self-care. Orem believes that human beings have the ability to take care of themselves and whenever this ability is distorted in a person, nurses help individuals to regain this ability by providing direct care, and compensatory educational support. Due to the prevalence of the hypertension, a person with hypertension should cooperate in all phases of the control and management of hypertension and be able to do self-care activities. Self-care is crucial for the control of hypertension and includes self-monitoring of blood pressure, low sodium diet, weight management, non alcoholic drinking, non smoking, and doing regular physical activity. Orem's theory of nursing has three interrelated parts: theory of self-care, theory of self-care deficit, and theory of nursing systems.

Orem defined self-care as a practice of activities that an individual initiates and performs on their own to maintain life and well-being. hypertension self-care is necessary to meet the continuous requirements for daily care that regulates life processes, and promote well-being in persons affected. Providing health education on hypertension during each clinic visit will increase patient's knowledge of activities that need to be incorporated into daily care of hypertension, therefore eliminating self-care deficits.

Self-care deficit restricts patient's ability to perform activities of daily living. In hypertension, self-care deficits can cause latent symptoms and more serious complications (Orem, 1991). Orem's theory refers to self-care deficits as a relationship, not a disorder of the person. The most

important aspect of self-care deficit in hypertensive patient is that it identifies the need for a nurse. Even though the need for a nurse is only in the case of an existing hypertension deficit, the education they provide is vital in the prevention of potential deficit.

In relation to this study, Orem's self-management agency can be related to hypertensive patient's acquired ability or power to engage in self-management. This ability or power is acquired through health education and teachings given by nurse educators, physicians and dieticians and also by experience. The basic conditioning factors that affect the self-management agency can be compared to the factors that affect the adherence behavior of hypertensive patients. These basic conditioning factors Orem highlighted as age, gender, developmental state, health, socio-cultural factors, healthcare system factors, family system factors, environmental factors and resource - availability and adequacy (Younas, 2017). The influence of these basic conditioning factors can negatively lead to health deviation requisite (need) and hence non adherence.

Orem's theory of nursing systems describes how education provided by the nurse meets the patient's self-care needs. This theory suggests that nursing systems form when nurses provide nursing care to patients that otherwise would not be provided. The nursing care provided improves and regulates the individual's self-care capabilities and meets therapeutic self-care needs. Thus, nursing systems cannot be formed or maintained without patients being active in the development of skills that constitute self-care.

There are three categories of Orem's theory of nursing systems. The wholly compensatory systems are for individuals who are unable to control and monitor their environment or process information. The partly compensatory systems are for individuals who are unable to perform some (but not all) self-care activities. Finally, the supportive educative (developmental) systems are for persons who need to learn to perform self-care activities. Hypertensive patients need to

take care of themselves and manage their illness at home, thus Orem's theory serves as good framework for identification of the basic conditioning factors that affect their ability for self-management and for determining the extent of their influence on patient's adherence behavior.

2.3 EMPIRICAL REVIEW

2.3.1 Knowledge of hypertension among hypertensive patients

In a study on knowledge, awareness and medication adherence in patient with hypertension by Piraseth, Kumanan, and Guruparan, (2017), 69.9% of patients had adequate knowledge about hypertension. However, 30.1% of patients had minimum knowledge about hypertension. Even though they had good knowledge about hypertension, 40.5% of patients were unaware of their disease status. 75.8% of patients did not know their values of blood pressure at time of diagnosis. 72.3% of patients were unaware of their values of blood pressure at the time of their last visit. 75% of patients who knew the values of blood pressure at time of last visit thought wrongly that their blood pressure control was adequate 48.2% of patients had awareness of target organ damage due to hypertension (Kidney, 72, 23.7%; heart, 128, 42.2%; brain, 140, 46.7%; eye, 42, 13.8%). 80% of patients were concerned that high blood pressure is a serious health issue. Almost all patients (99%) thought that taking medicine is key to control the blood pressure.

In a study on Knowledge, attitude and practice of hypertensive patient towards hypertension in a secondary health care facility in Delta State by Aghoja, Okinedo, and Odili (2017) shows that participants demonstrated good knowledge of hypertension, however (56.5%) had good knowledge, only a few (15.2%) of the respondents knew that hypertension is asymptomatic. Most of the respondents (83.3%) did not know their target blood pressure but, 84.9% knew what normal blood pressure should be.

In a study on Awareness of hypertension and its impact on blood pressure control among elderly Nigerians: report from the Ibadan study of aging by Raheem, Taiwo, and Oye (2017)

Earlier studies have shown that awareness of hypertension is low among sub-Saharan African populations but only a few studies have looked at the prevalence and awareness of hypertension among the elderly a longitudinal cohort study of the mental and physical health status as well the functioning of elderly persons residing in the Yoruba-speaking areas. Respondents, aged ≥ 65 years, were assessed for the presence of hypertension, its awareness, receipt of and adherence to medication for the condition, and effectiveness of treatment on the control of blood pressure. Blood pressure was measured with the use of digital monitor Awareness of the diagnosis of hypertension was ascertained by self-reports. social, economic, demographic and clinical correlates of the presence of hypertension, its awareness and control were explored .The mean age of the participants was 76.9 ± 8.4 years. In the findings it was recorded in 973 (62.2%) participants, with females having a prevalence of 61.4% and males that of 70.1%. Other than female gender, residing in urban/semi urban areas and being overweight or obesity were associated with the occurrence of hypertension. Among those assessed to have hypertension, 78% were not previously aware of its presence. Factors independently associated with lack of awareness of hypertension included low socioeconomic class among those who were aware of the presence of hypertension and were on treatment, 77.3% still had uncontrolled hypertension. Only obesity or overweight was independently associated with poor blood pressure control the result shows that the prevalence of hypertension among elderly Nigerians is high and those affected are often not aware of having the condition. Only a minority of those who receive treatment for the condition have adequate blood pressure control.

In a study on knowledge attitude and practice of Iranian hypertensive patient regarding hypertension by Yaseen, Hesam and Samad, et al., (2018) It was stated that participants knew the normal range of hypertension but only 30.9% of them know that hypertension usually have no sign. Most of the participants were truly know that stress (87.3%), obesity (70.9%) and aging (48.2%) are risk factors for hypertension. On the other hand about 85.5% of participants say that toxins are risk factors for hypertension. About 60% of participants know the complications of uncontrolled hypertension. The majority of participants think that increasing vegetable consumption (91.85) and also regular physical activity (84.5%) could prevent hypertension.

According to a study on the effect of knowledge about hypertension on the control of high blood pressure by Mahmut and Huseyin, (2016), it was discovered that frequencies of poor, moderate, and adequate level of knowledge about hypertension among subjects with hypertension were 31.3%, 62.1%, and 6.6% respectively. Only some of subjects knew that HBP does not show sign (7.4–30.7%) and HT does not lead any cancer (23.5%). When asked about the definition of normal BP, pre hypertension and hypertension, respectively 65.2%, 49.7% and 72% of the subjects answered the relevant BP classification correctly. Most of the subjects knew HBP lowering methods correctly (71.3–80.6%) and the necessity of regular intake of antihypertensive drugs (95.7%).

2.3.2 Knowledge of self- Management of Hypertension

In a study on Self-management Among Elderly Patients With Hypertension and Its Association With Individual and Social Environmental Factors in China by according to Zhang, Qiu, Chen, Zheng et al., (2020) it was discovered that the lowest level of self-management behaviors was in exercise management, and the highest was in medication management. The results of multiple

linear regression analysis showed that well-being, family function, sex, education level, and age were pivotal individual and social environmental factors influencing self-management behaviors among elderly patients with hypertension. There is a need to develop and improve self-management in elderly patients with hypertension. Specifically, individualized interventions to promote exercise among elderly persons with hypertension who are single and living alone. Male patients with a lower education level, poor well-being, poor family function, and the lowest self-management levels are a key population to target.

In a study on hypertension self-care practice and associated factors among patients by Sewunet, Fekadu and Debela (2019) it was stated that source of self-care information, income, gender, age, marital status, occupation, self-care agency, and social support had statistically significant association with hypertension self-care practice. However, in multiple logistic regression analysis only marital status, education, source of self-care information, place for exercise, social support, and self-care agency had statistically significant association with hypertension self-care practice. Divorced participants were about 88% less likely to have good self-care practice compared to those who were single. Participants who had traditional clergy-based teaching were 2.2 times more likely to have good self-care practice compared to those who were unable to read and write. Compared to participant who obtained self-care information from books those who had no access to sources of information were about 92% less likely to have good self-care practice. Participant who had convenient place for exercise were about 3 times more likely to have good self-care practice compared to those who had not ,Compared to participants with poor social support those who had good social support were 2.2 times more likely to have good self-care practice . Finally, participants who possessed good self-care agency were about 2 times more likely to have good self-care practice compare to those who had poor self-care agency.

Educational status of the participants, source of self-care information, income, gender, age, marital status, occupation, self-care agency, and social support had statistically significant association with hypertension self-care practice. However, in multiple logistic regression analysis only marital status, education, source of self-care information, place for exercise, social support, and self-care agency had statistically significant association with hypertension self-care practice (Ademe, Aga & Gela, 2019).

In a study on social support and management of hypertension in South West Nigeria by Osamor, (2015) it was discovered that social support can facilitate compliance to recommended treatment especially disease management, however (93%) who reported receiving social support from family members and friends had good compliance with treatment for hypertension. The study concluded that social support is strongly associated with hypertension treatment compliance.

In a Cross sectional study by Ding, Li, Su, Yuan and Lin (2018) on integrating factors associated with self-management among community-dwelling hypertensive patients in Guangzhou, China. The total standard score for hypertension self-management was 86.01 ± 9.00 , showing a high self-management level in the study population. The six dimensions in descending order were emotion management, diet management, sport management, work management, condition monitoring, and medication adherence. Moreover, participants with a high level of self-management were more likely to have their hypertension controlled

The results supported the proposed hypotheses that self-efficacy was associated with self-management and that age, CVD risk, disease course, disease knowledge, and social support were related to self-management via self-efficacy. It was also confirmed that higher levels of self-management were correlated with more hypertension control.

In contrast to traditional patient education, which focuses mainly on defining problems, self-management programs focus on developing problem-solving skills to help patients make decisions, take appropriate actions, and modify these actions in different circumstances, and were proved to decrease systolic BP by 5 mmHg and diastolic BP by 4.3 mmHg. The level of hypertension self-management in the study population was higher than other earlier studies in China, which may be explained by rapid economic growth, convenient access to information, and implementation of policies for chronic-disease management.

Medication adherence ranked the lowest among the six dimensions of self-management, which was similar to previous studies. The mean prevalence of non-adherence to antihypertensive treatments was 30% in an earlier study while this study showed a higher rate of 49.6%, indicating that participants might have had less awareness of disease hazards and underrated the importance of pharmaceutical treatment. Taking the high levels of total self-management into consideration, we suppose that patients, especially controlled ones, might have more willingness to seek non pharmacological approaches, such as exercise and dietary practices, to avoid adverse events associated with antihypertensive medications. As such, knowledge about the adverse events of antihypertensive medications and the severity of non-adherence are needed urgently for hypertensive patients.

The effect of self-efficacy on self-management followed its expected direction, which has been found in diverse hypertensive groups, that higher level of confidence in patients' ability to develop management behaviors can significantly contribute to better self-management and hypertension control. Interventions targeting four ingredients of self-efficacy are effective

Through this study, it was discovered that positive associations between disease knowledge or social support and self-management were both via self-efficacy, i.e, comprehensive

understanding of disease gives patients a sense of confidence to self-manage hypertension and a supportive other provides hands-on help with verbal encouragement or indirect beneficial effects on motivation, coping, and psychological well-being, which increases self-efficacy and then develops self-management behavior. To achieve these ends, health education on hypertension, not only for patients but also involving the patient's supporters – friends, family members, general practitioners – to provide positive support and feedback.

In this study, older age, longer disease course, and severer CVD risk were additionally associated with better self-efficacy and self-management compared with younger patients and those with milder hypertension, older patients with more severe conditions have less social support and needed more care. They are left alone, with little support or self-management, as a result of being abandoned by deceased family members and friends or due to the heavy burden. Also, disease knowledge was positively associated with social support. Educated patients may seek more social support; reciprocally, patients with more social support may receive more disease knowledge from friends and family members.

Educational status of the participants, source of self-care information, income, gender, age, marital status, occupation, self-care agency, and social support had statistically significant association with hypertension self-care practice. However, in multiple logistic regression analysis only marital status, education, source of self-care information, place for exercise, social support, and self-care agency had statistically significant association with hypertension self-care practice (Ademe, Aga & Gela, 2019).

2.3.3 Practice of Self-Management Among The Elderly

In a study on Predictors of Self-Management Behaviors in Older Adults with Hypertension by Brenda, Douglas and Elizabeth (2015), results indicate there is a common set of characteristics

such as higher stage of change, reading food labels, and higher self-rated health that can predict the older adult's likelihood to engage in hypertension self-management behavior. Findings are clinically relevant as knowledge of demographic and socio-behavioral characteristics associated with engagement in self-management behavior enables health care clinicians to support and encourage older adults to improve management of this common, chronic condition. The study also found that select demographic and socio-behavioral characteristics are related to engagement in self-management behaviors. Regression analyses identified each significant correlation to be a significant predictor of one or more self-management behaviors. A positive assessment of the study population that has implications for practice is that older adults are actively engaged in and knowledgeable about self-management behaviors to manage the pervasive problem of HTN.

The 2016 American Diabetes Association's (ADA's) standards of medical care in diabetes also indicate that a majority of patients with diabetes mellitus have hypertension. In patients with type 1 diabetes, nephropathy is often the cause of hypertension, whereas in type 2 diabetes, hypertension is one of a group of related cardio-metabolic factors (Aronow et al., 2011). Hypertension remains one of the most common causes of congestive heart failure (CHF). Antihypertensive therapy has been demonstrated to significantly reduce the risk of death from stroke and coronary artery disease. Other studies have demonstrated that a reduction in BP may result in improved renal function. Therefore, earlier detection of hypertensive nephrosclerosis (using means to detect micro-albuminuria) and aggressive therapeutic interventions (particularly with ACE inhibitor drugs) may prevent progression to end-stage renal disease (Musini, 2009).

Lifestyle modifications are essential for the prevention of high BP, and these are generally the initial steps in managing hypertension. As the cardiovascular disease risk factors are assessed in individuals with hypertension, pay attention to the lifestyles that favorably affect BP level and reduce overall cardiovascular disease risk. A relatively small reduction in BP may affect the incidence of cardiovascular disease on a population basis (Semlitsch et al., 2016). A decrease in BP of 2 mm Hg reduces the risk of stroke by 15% and the risk of coronary artery disease by 6% in a given population. In addition, a prospective study showed a reduction of 5 mm Hg in the nocturnal mean BP and a possibly significant (17%) reduction in future adverse cardiovascular event if at least one antihypertensive medication is taken at bedtime. In a study that attempted to formulate a predictive model for the risk of pre hypertension and hypertension, as well as an estimate of expected benefits from population-based lifestyle modification, investigators reported that the majority of risk factors have a larger role in pre hypertension and stage 1 hypertension than in stage 2 hypertension. (Aburto *et al* 2013). The investigators derived multistep composite risk scores by assessing significant risk factors in the progression from pre hypertension to hypertension, as well as the regression of pre hypertension to normal; they indicated that as the number of risk factors included in intervention programs increases, the size of the expected mean risk score decreases. In men, the 5-year predicted cumulative risk for stage 2 hypertension decreased from 23.6% (in the absence of an intervention program) to 14% (with 6-component intervention); the results were similar in women (Semlitsch *et al* 2013).

Dietary changes

A number of studies have documented an association between sodium chloride intake and BP. The effect of sodium chloride is particularly important in individuals who are middle-aged to elderly with a family history of hypertension. A moderate reduction in sodium chloride intake

can lead to a small reduction in blood pressure. The American Heart Association recommends that the average daily consumption of sodium chloride not exceed 6 g; this may lower BP by 2-8 mm Hg. (Forman, Scheven, de Jong, Bakker, Curhan, Gansevoort, 2012). One randomized controlled trial published found that moderate dietary sodium reduction (about 2500 mg Na⁺ or 6 g NaCl per day) added to angiotensin-converting enzyme (ACE) inhibition was more effective than dual blockade (ACE inhibitor [ACEI] and angiotensin II receptor blocker [ARB]) in reducing both proteinuria and BP in non-diabetic patients with modest chronic kidney disease. Furthermore, a low-sodium diet added to dual therapy yielded additional reductions in both BP and proteinuria, emphasizing the beneficial effect of dietary salt reduction in the management of hypertensive patients with renal insufficiency. The DASH eating plan encompasses a diet rich in fruits, vegetables, and low-fat dairy products and may lower blood pressure by 8-14 mmHg. The 2011 ADA standard of care supports the DASH diet, with the caution that high-quality studies of diet and exercise to lower blood pressure have not been performed on individuals with diabetes. The 2016 ADA Dietary potassium, calcium, and magnesium consumption have an inverse association with BP. Lower intake of these elements potentiates the effect of sodium on BP. Oral potassium supplementation may lower both systolic and diastolic BP. Alburto et al., (2013) stated that Calcium and magnesium supplementation have elicited small reductions in BP. In population studies, low levels of alcohol consumption have shown a favorable effect on BP, with reductions of 2-4 mm Hg. However, the consumption of 3 or more drinks per day is associated with elevation of BP. Daily alcohol intake should be restricted to less than 1 oz of ethanol in men and 0.5 oz in women. The 2011 ADA standard supports limiting alcohol consumption in patients with diabetes and hypertension.

Emerging evidence based on small randomized controlled trials suggests that dark chocolate may lower BP via improved vascular endothelial function and increased formation of nitric oxide. A meta-analysis of 13 randomized controlled trials that compared dark chocolate with placebo confirmed a significant mean SBP reduction of -3.2 mm Hg and DBP reduction of -2 mm Hg in hypertensive and pre hypertensive subgroups. (Ried et al 2010). Although many studies implicate a high fructose diet as a contributing factor to the metabolic syndrome and hypertension, a 2012 review of Cochrane database disputed this relationship.

A reduction in dietary sodium not only decreases the blood pressure and the incidence of hypertension, but is also associated with a reduction in morbidity and mortality from cardiovascular diseases. Prolonged modest reduction in salt intake induces a relevant fall in blood pressure in both hypertensive and normotensive individuals, irrespective of sex and ethnic group, with larger falls in systolic blood pressure for larger reductions in dietary salt. The high sodium intake and the increase in blood pressure levels are related to water retention, increase in systemic peripheral resistance, alterations in the endothelial function, changes in the structure and function of large elastic arteries, modification in sympathetic activity, and in the autonomic neuronal modulation of the cardiovascular system. In this review, the focus is on the effects of sodium intake on vascular hemodynamics and their implication in the pathogenesis of hypertension.

Excessive sodium consumption (defined by the World Health Organization as >5 g sodium per day) has been shown to produce a significant increase in BP and has been linked with onset of hypertension and its cardiovascular complications. Conversely, reduction in sodium intake not only decreases BP levels and hypertension incidence, but is also associated with a reduction in cardiovascular morbidity and mortality. (Grillo, Salvi, Coruzzi, et al 2019).

Weight loss and exercise

Up to 60% of all individuals with hypertension are more than 20% overweight. The centripetal fat distribution is associated with insulin resistance and hypertension. Even modest weight loss (5%) can lead to reduction in BP and improved insulin sensitivity. Weight reduction may lower

blood pressure by 5-20 mm Hg per 10 kg of weight loss in a patient whose weight is more than 10% of ideal body weight. Regular aerobic physical activity can facilitate weight loss, decrease BP, and reduce the overall risk of cardiovascular disease. Blood pressure may be lowered by 4-9 mm Hg with moderately intense physical activity (Weber MA 2015). These activities include brisk walking for 30 minutes a day, 5 days per week. More intense workouts of 20-30 minutes, 3-4 time a week, may also lower BP and have additional health benefits (Mancia 2010).

Blumenthal et al., (2010) found that in overweight or obese patients with high BP, adding exercise and weight loss to the DASH diet resulted in even larger reductions in BP and cardiovascular biomarkers of risk. Blumenthal et al., (2010) states the trial showed that after 4 months, clinic-measured BP was reduced by 16.1/9.9 mm Hg in patients in the DASH-plus-weight management group; by 11.2/7.5 mm Hg in the DASH-alone group; and by 3.4/3.8 mmHg in a control group eating a usual diet. Compared with DASH alone, DASH plus weight management also resulted in greater improvement in pulse wave velocity, baroreflex sensitivity, and left ventricular mass.

The 2016 and 2017 ADA diabetes standards support increasing physical activity. The recommendations emphasize that exercise is an important part of diabetes management in addition to reducing cardiovascular risk factors, contributing to weight loss, and improving overall well-being. Moreover, patients with diabetes and severe hypertension (SBP \geq 140 mm Hg or DBP \geq 90 mm Hg) at diagnosis or afterward should receive drug therapy along with lifestyle modifications. In 2018, the Physical Activity Guidelines Advisory Committee of the US Department of Health and Human Services (HHS) released their key recommendations, including the following. Regular physical activity minimizes excessive weight gain, helps maintain weight within a healthy range, improves bone health, and prevents obesity, even in

children as young as 3-5 years. In pregnant women, physical activity helps reduce excessive weight gain in pregnancy and helps reduce the risk of developing gestational diabetes and postpartum depression.

Regular physical activity is associated with lower blood pressure, reduced cardiovascular risk, and cardiac remodeling. While exercise and hypertension can both be associated with the development of left ventricular hypertrophy (LVH), the cardiac remodeling from hypertension is pathologic with an associated increase in myocyte hypertrophy, fibrosis, and risk of heart failure and mortality, whereas LVH in athletes is generally non-pathologic and lacks the fibrosis seen in hypertension. In hypertensive patients, physical activity has been associated with paradoxical regression or prevention of LVH, suggesting a mechanism by which exercise can benefit hypertensive patients.

Exercise is a key component of lifestyle therapy for the primary prevention and treatment of hypertension. A number of studies consistently demonstrate beneficial effects of exercise on hypertension with reductions in both systolic and diastolic blood pressure with as much as 5–7 mmHg reductions in those with hypertension.(Hegde & Solomon 2015)

Exercising on a regular basis has many health benefits and protects people against high blood pressure and cardiovascular diseases. Studies show that by reducing systolic blood pressure by 5 mmHg, deaths from strokes can be reduced by 14% and deaths from coronary heart disease can be decreased by 9% Regular exercise is key to preventing and treating hypertension.(WHO 2013)

Pharmacologic Regimen

If lifestyle modifications are insufficient to achieve the goal blood pressure (BP), there are several drug options for the treatment and management of hypertension. Based on the Seventh Report of the Joint National Committee of Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC 7) and the 2010 Institute for Clinical Systems Improvement (ICSI) guideline on the diagnosis and treatment of hypertension recommendations, thiazide diuretics were the preferred initial agents in the absence of compelling indications (Weber *et al* 2015).

However, the updated JNC 8 guidelines no longer recommend only thiazide-type diuretics as the initial therapy in most patients. According to the JNC 8 guidelines, angiotensin-converting enzyme [ACE] inhibitors/angiotensin receptor blockers [ARBs], calcium channel blockers [CCBs], and thiazide diuretics are equally efficacious in hypertensive non-black populations, whereas CCBs and thiazide diuretics are favored in black patients with hypertension. (James *et al* 2014). Compelling indications may include high-risk conditions that can be direct sequel of hypertension (heart failure, ischemic heart disease, chronic kidney disease, recurrent stroke) or that are commonly associated with hypertension. In such compelling cases, another class of drugs should be initiated. An Angiotensin Converting Enzyme inhibitor (ACEI), Angiotensin Receptor Blocker (ARB), and Calcium Channel Blocker (CCBs) are all acceptable alternative agents. Beta-blockers are no longer considered first-line therapy for hypertension, but these agents can be used in cases with compelling indications aside from hypertension, such as systolic heart failure. There are several opinions regarding which antihypertensive agents to use initially, because some patients may respond to a therapy that others may not. The following are drug class recommendations for compelling indications based on various clinical trials (Weber *et al* 2015). Heart failure: Diuretic, beta-blocker, ACE inhibitor/ARB, aldosterone antagonist following myocardial infarction.

In a cross-sectional study conducted at Dessie town by Sewunet *et al*, (2019), 309 hypertensive patients (mean age 58.8 years, 53.4% women) completed the interviewer-administered questionnaire in Amharic language. The result shows that the mean score for hypertension self-care was 37.7 ± 8.2 and 51% scored below the mean. Divorced participants and those who lack source of information were less likely to have good self-care practice. But, participants who had convenient place for exercise, good social support, traditional clergy-based teaching, and good

self-care agency were more likely to have good self-care practice. In conclusion, most of the study participants reported poor self-care practice.

In a study conducted by Ninayo, Ibrahim, Kassa, et al., (2019) On practice and predictors of self-care behaviours among ambulatory hypertensive patients in Ethiopia, it was discovered that the Prevalence care practices of study participants showed that; 61.9%, 30.5%, 44.9%, 93.5%, 88.3% and 56.9% were reported adherent to medication usage, low salt diet, physical activity, non-smoking, non-alcohol drinking and weight management practices respectively.

Also the predictors of self-care practices using bivariate logistic regression variables like younger age, female sex, normal weight, hypertension knowledge, self-efficacy, education, time since hypertension diagnosis and marital status were significantly associated with Self-care practice.

In a study on Hypertension Management in Older and Frail Older Patients by Athanase, Mirko and Timo (2019) it was discovered that in older subjects, a low diastolic blood pressure mainly reflects high arterial stiffness, which is a major manifestation of arterial aging rather than low peripheral resistance. In this instance, low diastolic blood pressure is associated with high SBP/PP values and increased CVD risk. The clinical application of these considerations is that, in people older than 55 to 60 years, SBP is a much more important CVD risk factor than DBP.

In multivariate logistic regression, normal weight patients were 1.82 times more likely to adhere medication usage practice than over weight respondents. However, participants of poor self-efficacy were less likely to adhere to medication usage than participants of good self-efficacy. Participants who get greater social support were 2.81 times more likely adherent to low salt diet than their counterparts .Female were 3.63 time more likely to non-smoking than male.

Respondents having adequate knowledge of hypertension were 2.58 times more likely to adhere practicing physical activity. However, female respondents were less likely to adhere physical activity than male. Normal weight respondents were 2.22 times more likely to practice weight management. Besides, having good self-efficacy were 2.60 times more likely to maintain their weight than poor self-efficacy.

A study conducted by Rimando (2015) on perceived barriers to and facilitators of hypertension management among underserved African American older adults, to understand the perceived barriers to and facilitators of hypertension self-management among underserved African American older adults in a southeastern clinic. method used was Interview, questions were focused on knowledge of hypertension management and barriers and facilitators to hypertension self-management. Thematic content analysis was applied. Result shows that Patients reported increased hypertension knowledge after attending the clinic. All patients reported knowledge of the severe consequences of uncontrolled hypertension. Perceived barriers to hypertension management included lack of money, lack of motivation to exercise, and fear of injury from exercising. Perceived facilitators of hypertension management included weight loss, unexpected diagnosis of hypertension, family members with hypertension and diabetes, and social support. in conclusions Findings suggest that perceived barriers and facilitators influence a patient's decision to manage hypertension. Findings suggest the importance of health literacy and patient-provider communication at this particular clinic. Possible factors in the social environment may influence hypertension management. This study adds to the literature by understanding the perceived barriers to and facilitators of hypertension management of an underserved sample in a southeastern clinic.

A study conducted by Javadzade, Larki, Tahmaseh, and Reisi, (2018) on theory based self care intervention with the application of health literacy strategies in patients with high blood pressure and limited health literacy in Bushehr city (south of Iran) that hypertension is a chronic condition affecting approximately one billion individuals worldwide. A 24% increase in developed and 80% in developing countries are predicted for the year 2025 and the increase is expected to be much higher than these predictions. In this regard, it was reported to be 14 to 34 percent in Iran and a systematically review study reported high rates of hypertension among males and females globally. This chronic disease can lead to very serious consequences such as cardiovascular and kidney disease. Despite the benefits of evidence-based hypertension self-care behaviors in improving blood pressure, hypertensive patients usually have low compliance with the recommended self-care behaviors. Various studies all over the world suggest a high prevalence of uncontrolled blood pressure among people with hypertension. One approach that may advance blood pressure control and be practicable for the most of hypertensive patients is patient compliance with self-care behaviors. The findings of a meta-analysis that examined the results of 87 studies indicated that optimal self-care in hypertensive patients could reduce systolic and diastolic blood pressure by 5 and 4.3 mmHg, respectively. Self-care for people with high blood pressure includes a diet rich in fruits and vegetables, cessation of smoking, sufficient physical activity, antihypertensive medication, reduction in weight, saturated and total fat, and sodium, and moderate alcohol consumption. Despite the benefits of evidence-based hypertension self-care behaviors in improving blood pressure, hypertensive patients generally do not follow medical or lifestyle recommendations and compliance with self-care behaviors in these patients is not desirable. Self-care behaviors are influenced by demographic variables and modifiable psychological variables such as self-efficacy, perceived threats, perceived benefits and barriers.

Although some studies have examined educational interventions in patients with high blood pressure, they often lack a theoretical framework describing how the educational emphasis on social, psychological, and cognitive variables can affect self-care behaviors in these patients.

In a study on hypertension self-care practice and associated factors among patients by Sewunet et al., (2019) the overall mean score for hypertension self-care practice was 37.7 ± 8.2 . From the total participants, 51% scored below the mean indicating poor self-care practice. On the other hand, 52.8 and 70.2% scored equal to or above the mean on self-care agency and social support scales, respectively.

Summary of Literature Review

According to the literature review efforts are made to reduce complications and mortality rate from hypertension, however in some countries knowledge of hypertension and its complications are still very low therefore making it difficult for patients to participate in their self-management. Orem's self-care theory was used to enable patients participate actively in their own health care rather than depending totally on health professionals.

CHAPTER THREE

METHODOLOGY

This chapter elaborated on the methods and procedures that were employed in this research. This was discussed under the following headings: Methodology, Research design, Research setting, Target population, Sample size and sampling techniques, Instrument for data collection Validity and Reliability of the instrument, Method of data collection, Method of data analysis and Ethical consideration.

3.1 Research Design

In this study, the researcher adopted a cross-sectional descriptive survey to determine the extent of compliance of hypertensive patient to their self-management in the out-patient department in University of Benin Teaching Hospital in Benin-City, Edo state. Cross-sectional study is a type of observational study that analyzes data from a population, or a representative subset, at a specific point in time. This design was chosen because it focuses on a specific population. Collection of data from respondents was done through administration of well-structured copies of questionnaire which describe the characteristics of the population.

3.2 Research Setting

The research setting is the physical, social and cultural site in which the researcher conducts the study. The study was carried out in the University of Benin Teaching Hospital, Benin-City, Edo State. It is located in Egor Local Government Area of Edo State along the Benin-Lagos expressway. The University of Benin Teaching Hospital is tertiary health facility, founded in 1973. It is a full-fledged Hospital offering high quality health care service in response to the changing demand for effective, efficient and affordable treatment.

The University of Benin Teaching Hospital comprises of Medical wards, Surgical wards, Orthopedics, Children’s ward, Maternity complex, Antenatal clinic, Family planning clinic, Renal Unit, Emergency ward and Theatre and Out-Patients Department. It is a tertiary health institution where patients are referred to from the local government, private, state, mission hospitals etc. It serves as a base for clinical experience for medical and nursing students.

3.3 Target Population

The target population of the study represents the entire group of individuals to which the researchers are interested in generalizing the conclusions. The target population comprises of all Elderly hypertensive patients [age 60-75] attending the consultant out-patient clinic in University of Benin Teaching Hospital. The population was gotten from a retrospective review of average monthly attendance from October to December, 2019.

| | OCTOBER | NOVEMBER | DECEMBER |
|-----------------------------|----------------|-----------------|-----------------|
| Week 1 | 55 | 56 | 43 |
| Week 2 | 40 | 63 | 55 |
| Week 3 | 49 | 65 | 47 |
| Week 4 | 53 | 52 | 59 |
| Total no of patients | 197 | 236 | 204 |

The Total number of elderly patients who visited the clinic in the last three months was **634**.

Inclusion Criteria

- Elderly patients with hypertension in University of Benin teaching hospital visiting the consultant out patients department from age 60 and above.
- They should be interested.
- They should be physically and mentally stable.

3.4 Sampling Technique

The sampling technique that was used is a convenient sampling method. Convenient sampling method is a non-probability sampling method, in which the researcher is at will to choose the most conveniently and economically (in terms of time) available persons for the study, it means people who are interested and available. The department to be used in this study is the Consultant Out Patient Clinic (COPC), in which male and female patients have equal chances of being chosen. Patients from various religious background and ethnic group were chosen to ensure unity in diversity.

3.5 Sample Size Determination

A sample size of 269 patients was used for the study. This was gotten from the total population of 634, using Taro Yamane, (1967) formula as shown below.

$$n = \frac{N}{1 + N(d)^2}$$

Where n = sample size

N = population size

D = level of precision (confidence interval)

N = 634

D = 0.05

Thus $n = 634 / 1 + 634(0.05)^2$

$n = 634 / 1 + 634 \times 0.0025$

$n = 634 / 1 + 1.585$

$n = 634 / 2.585$

$n = 246$

10% Attrition rate = 10% of sample size

$(10/100) \times 246$

= 25

Total sample size = 245.26+ 24.53 = 269

3.6 Instrument for Data Collection

The instrument for data collection used in this study is a self-structured questionnaire. Questions were carefully sequenced and constructed in a bid to get an in depth information that is useful and relevant to the study from the respondents' understudy. Both closed and open-ended questions were used. Open ended questions were used to exonerate more information from the students that is personal.

The questionnaire constructed comprises of four sections.

Section A: Comprises of 7 demographic data of the participants.

Section B: comprises of 9 items close ended knowledge questions on. The knowledge was classify as poor (1-3), good (4-6) and very good (6-8).

Section C: comprises of 7 items questions on knowledge of self-management, each item having only one correct answer.

Section D: comprises of the self-management behavior among the elderly with 6 items using a 4-point Likert scale.

3.7 Validity of Instrument.

Validity refers to the degree to which a research instrument measures what it intends to measure. Face and content validity was considered in the study. Face validity involves simply looking at the instrument to be used and inspecting them at face value to be sure that it measures what it is

supposed to measure. Expert Statistician was consulted with questionnaires to ensure validity. The instrument for the research work was validated by the project supervisor, who scrutinized the content and gave approval for it to be used.

3.8 Reliability of Instrument.

Reliability refers to the degree to which an assessment tool produces stable and consistent results. In order to be sure that the instrument was reliable, a pre-testing was done using 10% of the proposed study subjects. 15 patients from Central Hospital, Benin-city were used to pre-test the reliability of the instrument. The reliability of the instrument was corrected using the Cronbach's alpha test. The test is used for a dichotomous data, that is questions with 'yes' or 'no' answer or 'male and female'. The value of the Alpha model of reliability obtained was 0.63 which showed a good degree of internal consideration.

3.9 Method of Data Collection

Letter of identification was collected from the department and a consent letter was obtained from the Health Institution. Oral consent was gotten from the participants, after explaining to them the purpose of the study. Questionnaires were given to the participants without encroachment on their visit to the doctor and assistance was rendered where necessary, thereafter, questionnaires were collected from the participants.

3.10 Method of Data Analysis

The researcher used descriptive and inferential statistics to analyse the data collected. Frequency count, percentages, means and standard deviation were calculated and the values were represented using graphs, bar-charts and tables below to give a much clearer picture of the outcomes and detailed meanings to the findings for an easier understanding and interpretation.

3.10 Ethical Consideration

The researcher obtained a letter of identification from the Department of Nursing Science to the institution. A proposal was also submitted to the ethical and research committee of the University of Benin Teaching Hospital, Benin City.

The researcher maintained the following ethical consideration during the research exercise.

- 1) Confidentiality: The researcher ensured that information provided by respondents will be treated with utmost confidentiality, hence, no name or addresses will be requested for, in the questionnaire.
- 2) Self-determination/Voluntary participation: The researcher ensured that the respondents have the right to voluntarily decide whether to participate in the study or not, without the risk of incurring any penalty or prejudicial treatment. They will be given the right to decide at any point during the study to withdraw their participation or refuse to provide any information on any point that is not clear to them.
- 3) Plagiarism was avoided: All authors used in this study were appropriately cited both in the body of the work and at the reference page.
- 4) The purpose and benefit of the study was explained to the respondent to obtain their informed consent.

CHAPTER FOUR

RESULTS

This chapter presents the data analysis, testing of hypothesis and answering of the research questions based on responses obtained from the questionnaires administered to hypertensive patients. The respondents were randomly sampled for the study. Frequencies, percentages, mean and standard deviation presented in tables as well as pie chart were used to analyze the data.

4.1 Socio-demographic Characteristics Of Respondents

Table 4.1 Socio-demographic characteristics of respondents

| Age (Years) | Frequency | Percentages |
|---------------------------|------------------|--------------------|
| 60-65 | 104 | 38.8 |
| 66-70 | 82 | 30.6 |
| 71-75 | 51 | 19.0 |
| 76-80 | 27 | 10.1 |
| 80 and above | 4 | 1.5 |
| Sex | | |
| Female | 137 | 51.1 |
| Male | 131 | 48.9 |
| Marital Status | | |
| Single | 26 | 9.7 |
| Married | 176 | 65.7 |
| Divorced | 22 | 8.2 |
| Widowed | 42 | 15.7 |
| Others | 2 | 0.7 |
| Ethnicity | | |
| Bini | 112 | 41.8 |
| Hausa | 18 | 6.7 |
| Esan | 54 | 20.1 |
| Igbo | 53 | 19.8 |
| Yoruba | 31 | 11.6 |
| Others | 0 | 0.0 |
| Religion | | |
| Christianity | 218 | 81.3 |
| Muslim | 39 | 14.6 |
| Traditional worshippers | 8 | 3.0 |
| Others | 3 | 1.1 |
| Level of education | | |
| Primary | 41 | 15.3 |
| SSCE | 65 | 24.3 |
| B.Sc | 115 | 42.9 |
| Masters | 26 | 9.7 |
| Ph.D | 21 | 7.8 |
| Others | 0 | 0.0 |
| Occupation | | |
| Unemployed | 33 | 12.3 |
| Civil servant | 93 | 34.7 |
| Farmer | 21 | 7.8 |
| Trader | 43 | 16.0 |
| Retiree | 57 | 21.3 |
| Others | 21 | 7.8 |

Table 4.1 shows socio-demographic characteristics of respondents. Age: Majority of the respondent were 60-70 years, few were 71-80 years while the remaining were 80 years and above. Sex: Majority of the respondents were females compared to males. Marital Status: Majority were married, very few were divorced, most were widowed, few were single, while the remaining had other marital status. Tribe: Majority were Bini's, few were Esan, while others belonging to different ethnic group. Religion: Majority were Christians, few were Muslims, while others practiced other religions. Educational level: Majority were B.Sc holders, few were SSCE holders masters, while the remaining fall into other category. Occupation: Majority of the respondents were civil servants, few were self-employed, only a few were retired and unemployed.

4.2 Knowledge of hypertension disease among the elderly hypertensive patients

Table 4.2: Knowledge of hypertension disease among the elderly hypertensive patients

| | Frequency | Percentages |
|---|-----------|-------------|
| Hypertension means | | |
| Low blood pressure | 13 | 4.9 |
| High blood pressure | 239 | 89.2 |
| Tensed | 13 | 4.9 |
| None of the above | 1 | 0.4 |
| I don't know | 2 | 0.7 |
| Which of the following is regular blood pressure reading? | | |
| 60/80 -110/70mmHg | 45 | 16.8 |
| 120/80-130/90mmHg | 152 | 56.7 |
| 140/90 – 150/100mmHg | 44 | 16.4 |
| None of the above | 13 | 4.9 |
| I don't know | 14 | 5.2 |
| Which of this/these can lead to hypertension? | | |
| High-salt diet | 139 | 51.9 |
| Stress | 179 | 66.8 |
| Excess coffee | 79 | 29.5 |
| Excess Water | 16 | 6.0 |
| Excess tea | 12 | 4.5 |
| I don't know | 12 | 4.5 |
| Which of these are at greater risk of developing Hypertension? | | |
| Aging | 198 | 78.6 |
| Overweight | 167 | 66.3 |
| Smoking | 123 | 48.8 |
| Alcohol consumption | 130 | 51.6 |
| Which of the following can help prevent hypertension | | |
| Regular exercise | 183 | 72.0 |
| Diet rich in vegetables, fruits and low-fat dairy product | 173 | 68.1 |
| Rest | 165 | 65.0 |
| Which of the following is a consequence of poor management of hypertension | | |
| Stroke | 196 | 84.8 |
| Overweight | 26 | 11.3 |
| Malnutrition | 34 | 14.7 |
| Asthma | 28 | 12.1 |

Table 4.2 shows respondent's knowledge of hypertension disease among the elderly hypertensive patients. It was reported by majority 239(89.2%) that hypertension means high blood pressure, majority reported that 120/80-130/90mmHg is the regular blood pressure reading, 45(16.8%) reported it was 60/80-110/70mmHg while 44(16.4%) reported it was 140/90-150/100mmHg. It was reported by majority 179(66.8%) that stress can lead to hypertension, 139(51.9%) reported it was high-salt diet while 79(29.5%) reported it was excess coffee. It was reported by majority 198(78.6%) that aged people are at a greater risk of developing hypertension, 167(66.3%) reported it was those overweight, 123(48.8%) reported it was those who smoked while 130(51.6%) reported it was those who consumed alcohol. It was reported by majority 183(72%) that regular exercise can prevent hypertension, 173(68.1%) reported it was diet rich in vegetable, fruits and low-fat dairy product, 165(65%) reported it was rest. It was reported by majority that consequence of poor management of hypertension is stroke.

4.3: Level of knowledge of hypertension

| | Frequency | Percentage |
|-------------|------------------|-------------------|
| Poor (0-4) | 30 | 11.2% |
| Fair (5-8) | 102 | 38.1% |
| Good (9-12) | 136 | 50.7 |
| Total | 271 | 100 |

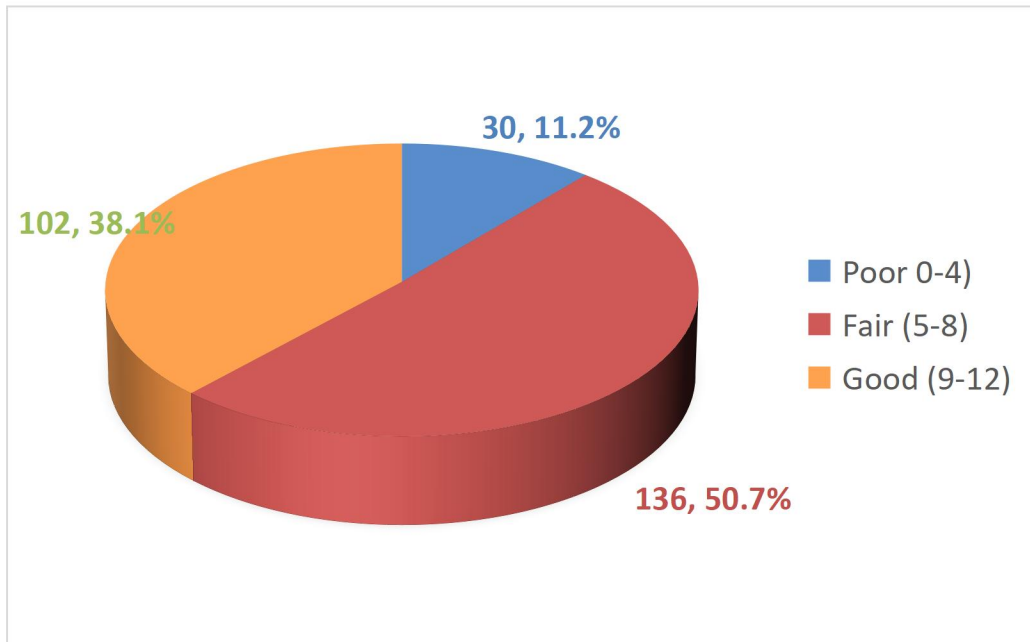


Figure 4.1: Level of knowledge of hypertension disease among the elderly hypertensive patients

Figure 4.1 shows level of hypertension disease among the elderly hypertensive patients, 30% had poor knowledge, majority 50.7% had fair knowledge, 38.1% had good knowledge.

Table 4.3: Knowledge of self management of hypertension

| | Yes | | No | |
|--|-----------|------------|-----------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| It is important to check your blood pressure on a regular basis | 261 | 97.0 | 8 | 3.0 |
| Losing weight usually help reduce blood pressure | 244 | 90.7 | 25 | 9.3 |
| Smoking will not affect your blood pressure | 220 | 81.8 | 41 | 15.2 |
| Increasing salt intake is good for people with high Blood pressure | 29 | 10.8 | 240 | 89.2 |
| Regular moderate to vigorous exercise is good for people with high Blood pressure | 225 | 83.6 | 44 | 16.4 |
| Alcohol and sugary beverages are good for people with high blood pressure | 235 | 87.4 | 34 | 12.6 |
| Fresh vegetables and fruits less in sugar are good for people with high Blood pressure | 252 | 93.7 | 17 | 6.3 |

Table 4.3 shows the knowledge of hypertension management strategies hypertension. 261 (97.0%) reported that it is important to check your blood pressure on a regular basis while 8(3.0%) stated otherwise. 244(90.7%) reported losing weight usually help reduce blood pressure, while 25(9.3%) reported No. 220(81.8%) reported that smoking will not affect your blood pressure, 29(10.8%) reported that increasing salt intake is good for people with high blood pressure, 225(83.6%) reported regular moderate to vigorous exercise is good for propel with high blood pressure, 235(87.4%) reported that alcohol and sugary beverages are good for people with high blood pressure, 252(93.7%) reported fresh vegetables and fruit less in sugar are good for people with high blood pressure..

Table 4.4: Self-Management practice of the elderly

| | Never | Sometimes | Often | Always | Mean |
|--|--------------|------------------|--------------|---------------|-------------|
| Medication adherence is one important way of self-managing hypertension. | 19(7.1) | 51(19.0) | 49(18.3) | 149(55.6) | 2.22 |
| Constant blood pressure monitoring is an important way of self-managing the condition. | 14(5.2) | 59(22.0) | 48(17.9) | 147(54.9) | 2.22 |
| Eating balance diet is not an important way to self-manage hypertension. | 68(25.4) | 65(24.3) | 80(29.9) | 55(20.5) | 1.46 |
| Exercise is important self-management behavior of hypertension. | 17(6.3) | 97(36.2) | 72(26.9) | 82(30.6) | 1.82 |
| Adequate rest is important in self-management of hypertension. | 9(3.4) | 47(17.5) | 80(29.9) | 132(49.3) | 2.25 |
| Stress management is an important way of self-managing hypertension. | 7(2.6) | 66(24.6) | 73(27.2) | 122(45.5) | 2.16 |
| Keeping to doctor's appointment | 7(2.6) | 58(21.6) | 64(23.9) | 139(51.9) | 2.25 |
| Overall | | | | | 2.05 |

Table 4.4 show self-management behavior of the elderly. It was reported by majority 149(55.6%) that always adhered to medication as one important way of self-managing hypertension, 147(54.9%) reported they always had their blood pressure constantly monitored as a way of self-managing the condition, 55(20.5%) reported they always had a diet regimen as an important self-management behavior of hypertension, it was reported by majority 132(49.3%) that they always took adequate rest for hypertension self-management, 139(51.9%) reported they always kept to doctor's appointment, 122(45.5%) reported they always adopted positive lifestyle behavior as an important way of self-managing hypertension. The mean values show that all the items suggest good practice except for the item on Eating balance diet is not an important way of self-manage hypertension which gave a score lower than the mean cut-off (1.50). Overall mean of 2.05 shows that there is good self-management behaviour of the elderly.

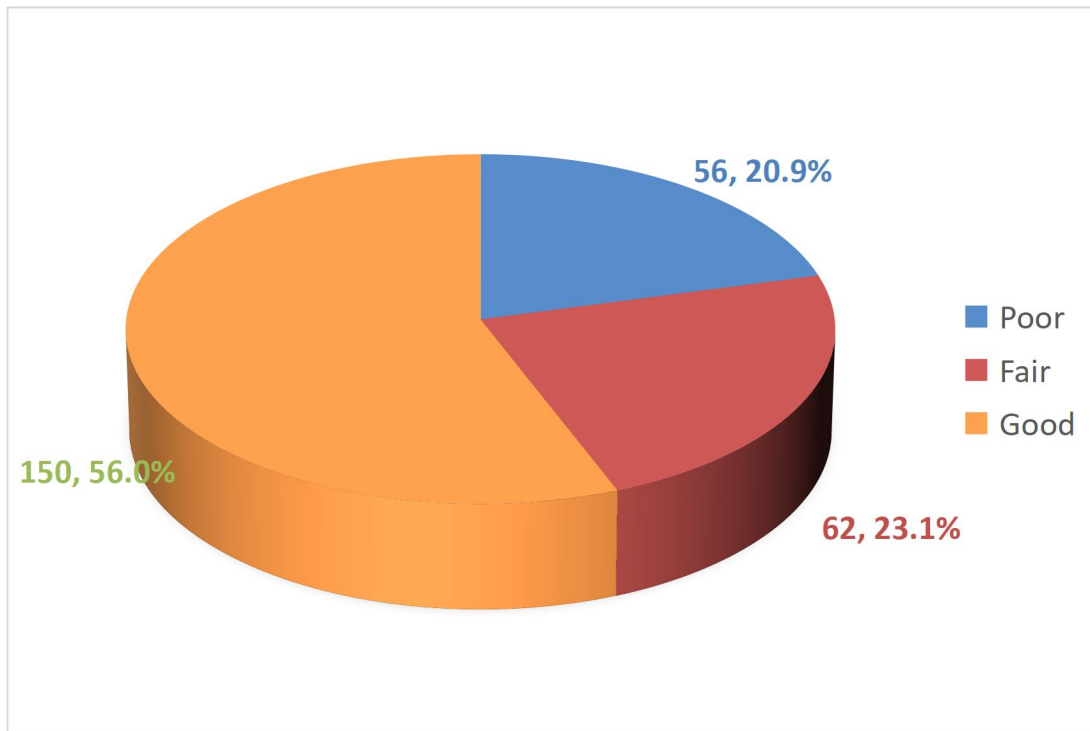


Figure 4.2: Level of Practice of Self Management of hypertension

Figure 4.2 shows level of practice of self-management of hypertension, 20.9% had a poor level practice of diabetes self-management, 23.1% had a fair level of practice while majority 56% had good level of hypertension self-management.

4.3 Hypothesis Testing

Table 4.5: Association between level of knowledge and level of practice of self-management of hypertension

| | Level of practice | | | Total | χ^2 | Df | P |
|---------------------------|-------------------|----------|-----------|------------|----------|----|-------|
| | Poor | Fair | Good | | | | |
| Level of Knowledge | | | | | | | |
| Poor 0-4) | 14(46.7) | 4(13.3) | 12(40.0) | 30(100.0) | 31.228 | 4 | 0.000 |
| Fair (5-8) | 31(22.8) | 42(30.9) | 63(46.3) | 136(100.0) | | | |
| Good (9-12) | 11(10.8) | 16(15.7) | 75(73.5) | 102(100.0) | | | |
| Total | 56(20.0) | 62(23.1) | 150(56.0) | 268(100.0) | | | |

Table 4.5 shows the association between level of knowledge and level of practice of self-management of hypertension. The table shows that respondents with good knowledge reported highest proportion with good practice, while those with poor knowledge reported lowest proportion with good practice. This association is statistically significant ($p < 0.05$), we therefore reject the null hypothesis.

CHAPTER FIVE

DISCUSSION OF FINDINGS

This chapter provides the discussion of findings in accordance to the stated objectives and hypothesis, implications for nursing, summary, conclusion, recommendation and suggestion for further studies.

5.1 Discussion of Findings

Knowledge of hypertension disease among the elderly hypertensive patients

The finding from this study showed that 30% of respondents had poor knowledge, most 50.7% had fair knowledge and 38.1% had good knowledge. In relation to the present study the research done by Mahmut and Huseyi (2016), revealed that 31.3% of respondents had poor knowledge of hypertension, 62.1% of respondents had moderate knowledge of hypertension, and 6.6% of respondents had adequate knowledge of hypertension. Also, in another study Piraseth, Kumanan, and Guruparan, (2017), 69.9% of patients had adequate knowledge about hypertension. However, 30.1% of patients had minimum knowledge about hypertension.

Another study by Aghoja, Okinedo, Odili (2017) shows that participants demonstrated good knowledge of hypertension, however (56.5%) had good knowledge, only a few (15.2%) of the respondents knew that hypertension is asymptomatic. Most of the respondents (83.3%) did not know their target blood pressure but, 84.9% knew what normal blood pressure should be.

In a study by Raheem, Taiwo, and Oye (2017) shows that awareness of hypertension is low among sub-Saharan African population and those assessed to have hypertension, 78% were not previously aware of its presence. Factors independently associated with lack of awareness of hypertension included low socioeconomic class among those who were aware of the presence of

hypertension and were on treatment, 77.3% still had uncontrolled hypertension. Only obesity or overweight was independently associated with poor blood pressure control the result shows that the prevalence of hypertension among elderly Nigerians is high and those affected are often not aware of having the condition. Only a minority of those who receive treatment for the condition have adequate blood pressure control.

Also in another study regarding hypertension by Yaseen, Hesam and Samad, et al., (2018) It was stated that participants knew the normal range of hypertension but only 30.9% of them know that hypertension usually have no sign. Most of the participants were truly know that stress (87.3%), obesity (70.9%) and aging (48.2%) are risk factors for hypertension. On the other hand about 85.5% of participants say that toxins are risk factors for hypertension. About 60% of participants know the complications of uncontrolled hypertension. The majority of participants think that increasing vegetable consumption (91.85) and also regular physical activity (84.5%) could prevent hypertension.

Knowledge of self-management of hypertension among the elderly hypertensive patients

Table 4.3 shows the knowledge of hypertension management strategies hypertension. 261 (97.0%) reported that it is important to check your blood pressure on a regular basis while 8(3.0%) stated otherwise. 244(90.7%) reported losing weight usually help reduce blood pressure, while 25(9.3%) reported No. 220(81.8%) reported that smoking will not affect your blood pressure, 29(10.8%) reported that increasing salt intake is good for people with high blood pressure, 225(83.6%) reported regular moderate to vigorous exercise is good for propel with high blood pressure, 235(87.4%) reported that alcohol and sugary beverages are good for people with high blood pressure, 252(93.7%) reported fresh vegetables and fruit less in sugar are good for people with high blood pressure.

The result shows that the major factors associated with self-management of hypertension were age, occupational status, social support, low income and gender. Age had a mean and St.D of 2.57 ± 1.19 , level of education had a mean and St.D of 2.57 ± 1.12 , occupational status had a mean and St.D of 2.54 ± 1.10 , social support had a mean and St.D of 2.60 ± 0.98 , low income had a mean and St.D of 2.75 ± 1.00 , gender had a mean and St.D of 2.30 ± 1.03 . This is similar to results of a research carried out by (Ademe, Aga & Gela, 2019) where educational status, source of self-care information, income, gender, age, marital status, occupation, self-care agency, and social support of respondents were significantly associated with hypertension self-care practice. However, in multiple logistic regression analysis only marital status, education, source of self-care information, place for exercise, social support, and self-care agency had statistically significant association with hypertension self-care practice. Furthermore, in their study, Sewunet et al., (2019) found that source of self-care information, income, gender, age, marital status, occupation, self-care agency, and social support had statistically significant association with hypertension self-care practice.

Ding, Li, Su, Yuan and Lin (2018) found that the total standard score for hypertension self-management was 86.01 ± 9.00 , showing a high self-management level in the study population. The six dimensions in descending order were emotion management, diet management, sport management, work management, condition monitoring, and medication adherence. Moreover, participants with a high level of self-management were more likely to have their hypertension controlled.

Self-Management Behavior of the elderly

This study finds that majority 149(55.6%) always adhered to medication as one important way of self-managing hypertension, 147(54.9%) reported they always had their blood pressure constantly monitored as a way of self-managing the condition, 55(20.5%) reported they always had a diet regimen as an important self-management behavior of hypertension, it was reported by majority 132(49.3%) that they always took adequate rest for hypertension self-management, 139(51.9%) reported they always kept to doctor's appointment, 122(45.5%) reported they always adopted positive lifestyle behavior as an important way of self-managing hypertension. Furthermore, 20.9% had a poor level practice of hypertension self-management, 23.1% had a fair level of practice while majority 56% had good level of hypertension self-management.

Sewunet et al., (2019) found that the overall mean score for hypertension self-care practice was 37.7 ± 8.2 . From the total participants, 51% scored below the mean indicating poor self-care practice. On the other hand, 52.8 and 70.2% scored equal to or above the mean on self-care agency and social support scales, respectively.

Javadzade, Larki, Tahmaseh and Reisi (2018) found that self-care behaviors are influenced by demographic variables and modifiable psychological variables such as self-efficacy, perceived threats, perceived benefits and barriers. Although some studies have examined educational interventions in patients with high blood pressure, they often lack a theoretical framework describing how the educational emphasis on social, psychological, and cognitive variables can affect self-care behaviors in these patients.

In addition, Ninayo et al (2019) on practice and predictors of self-care behaviours among ambulatory hypertensive patients in Ethiopia, discovered that the Prevalence care practices of

study participants showed that ; 61.9%, 30.5%, 44.9%, 93.5%, 88.3% and 56.9% were reported adherent to medication usage, low salt diet, physical activity, non-smoking, non-alcohol drinking and weight management practices respectively .

Results of this study also show that respondents with good knowledge reported highest proportion with good practice, while those with poor knowledge reported lowest proportion with good practice. This association is statistically significant ($p < 0.05$), the null hypothesis is therefore rejected.

5.2 Implication of Findings to Nursing

1. Evidence from this study could help nurses to re-plan health education given to patients on self-management of hypertension.
2. Nurses could identify factors associated with self-management of hypertension and work to correct loopholes.

5.3 Limitations of the Study

The limitation of the study includes:

Unwillingness of respondents to give relevant information.

5.4 Summary

This study seeks to determine the Self- management of Hypertension Among Elderly Patients in a Tertiary Health Institution, in Benin City Edo state. The study was outlined into five chapters. Chapter one of this study dealt with the introduction of the topic, statement of problem, objectives of the study, research questions, hypotheses and scope of study, the significance of the study and operational definition of terms. Relevant literature were reviewed in chapter two on the subject under discourse, theoretical framework and empirical review of related studies were also discussed in this chapter. Chapter three dealt with research methodology which adopted the

survey research design and simple random sampling method was used to select two hundred and sixty nine (269) participants in the University of Benin Teaching Hospital. A structured questionnaire was used as instruments of data collection. Analysis and interpretation of data were discussed in chapter four, tables with percentage and means represented information as well as bar charts. The result from the study shows that respondents with good knowledge reported highest proportion with good practice, while those with poor knowledge reported lowest proportion with good practice. This association is statistically significant ($p < 0.05$), the null hypothesis is therefore rejected.

5.5 Conclusion

This study assessed the self- management of hypertension among elderly patients in a tertiary health institution, in Benin City, Edo state. The result shows that 20.9% of respondents had a poor level practice of hypertension self-management, 23.1% had a fair level of practice while majority 56% had good level of hypertension self-management. The study however also showed that respondents with good knowledge reported highest proportion with good practice, while those with poor knowledge reported lowest proportion with good practice. This association is statistically significant ($p < 0.05$), the null hypothesis is therefore rejected.

5.6 Recommendations

1. Nurses should counsel patients on the importance of proper self-management of hypertension.
2. A comparative study can be conducted among patients from other health facilities asides those in UBTH.
3. Patients should be health educated regularly on the cause, symptoms and complications of hypertension.

4. More community health facilities should be established to reduce the travelling distance of these patients going for check-up.
5. The health care providers should give focus on awareness of hypertension and self - management of hypertensive patients.

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APPENDIX
QUESTIONNAIRE
DEPARTMENT OF NURSING SCIENCES
SCHOOL OF BASIC MEDICAL SCIENCE
UNIVERSITY OF BENIN,
BENIN CITY, EDO STATE.

Dear respondents,

I am a student of the above named institution, carrying out a research study on SELF-MANAGEMENT AMONG ELDERLY HYPERTENSIVE PATIENT IN A TERTIARY HEALTH INSTITUTION BENIN CITY, EDO STATE.

I will be grateful if you tick the option considered appropriate in the spaces provided. All information provided is strictly for this research purpose and will be treated confidentially.

Thank you

Instruction: tick the option that is appropriate to you.

SECTION A: Bio-data

1. Age: 60-65 [], 66-70 [], 71-75[], 76-80[], 80 and above
2. Sex: Female [], Male []
3. Marital status: Single [], Married [], Divorced [], widowed [], Others []
4. Ethnic group: Bini [], Hausa [], Yoruba [], Igbo [], Others (specify please)
5. Religion: Christianity [], Muslim [], Traditional worshipper [], Others []
6. Level of education: Primary [], SSCE [], BSC [], Masters [], P.H.D [], Others (please specify).....
7. Occupation: Unemployed [], Civil Servant [] Farmer [] Trader [] Retiree [] Others []

SECTION B: level of knowledge of hypertension disease among the elderly hypertensive patients

8. Hypertension means (a) low blood pressure (b) high blood pressure (c) tensed (d) none of the above
9. Which of the following is regular blood pressure reading? (a) 60/80 -110/70mmHg (b) 120/80-130/90mmHg (c) 140/90 – 150/100mmHg (d) none of the above
10. Which of this/these can lead to hypertension? Tick as many possible causes. (a) High-salt diet () (b) Stress () (c) Excess coffee () (d) Excess Water () (e) Excess tea ()

11. Which of these are at greater risk of developing Hypertension? (a) Aging () (b) Overweight () (c) Smoking (d) Alcohol consumption (e) All of the above
12. Which of the following can help prevent hypertension (a) Regular exercise (b) Diet rich in vegetables, fruits and low-fat dairy product (c) rest (d) Avoid smoking and alcoholism (e) All of the above
13. Which of the following is a consequence of poor management of hypertension (a) Stroke (b) over weight (c) malnutrition (d) Asthma (e) none of the above

SECTION C: KNOWLEDGE OF HYPERTENSION MANAGEMENT STRATEGIES

| S/N | QUESTION | RESPONSE | |
|-----|--|----------|----|
| 1. | It is important to check your BP on a regular basis | Yes | No |
| 2. | Losing weight usually help reduce blood pressure | Yes | No |
| 3. | Smoking will not affect your BP | Yes | No |
| 4. | Increasing salt intake is good for people with high BP | Yes | No |
| 5. | Regular moderate to vigorous exercise is good for people with high BP | Yes | No |
| 6. | Alcohol and Sugary beverages are good for people with high BP | Yes | No |
| 7. | Fresh vegetables and fruits less in sugar are good for people with high BP | Yes | No |

SECTION D: Self-Management Behavior of the elderly

| S/N | Question | NEVER | SOMETIMES | OFTEN | ALWAYS |
|-----|--|-------|-----------|-------|--------|
| 1 | Medication adherence is one important way of self-managing hypertension. | | | | |
| 2 | Constant blood pressure monitoring is an important way of self-managing the condition. | | | | |
| 3 | Eating balance diet is not an important way to self-manage hypertension. | | | | |
| 4 | Physical fitness is important self-management behavior of hypertension. | | | | |
| 5 | Adequate rest is important in self-management of hypertension. | | | | |
| 6 | Stress management is an important way of self-managing hypertension. | | | | |
| 7 | Keeping to doctors appointment | | | | |