University of Baghdad

College of Nursing

Effectiveness of an Instructional Program Concerning Medication Adherence on Knowledge of Hypertensive Patients at AL-Razi Center in Al-Basra Governorate

A Thesis Submitted

By

Ahmed Thamer Saud

To the Department of Adult Nursing, College of Nursing, University of Baghdad

In Partial fulfillment of the Requirements for the Degree of Master in Nursing Science

Supervisor

Prof .Dr. Huda B. Hassan

June / 2019 **shawwal / 1440**

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

((وَإِذَا مَرِضْتُ فَهُوَ يَشْفِينِ))

صدق الله العلي العظيم

(سورة الشعراء /اية 80)

Supervisor certification

I certify this thesis which is titled (**Effectiveness of an Instructional Program Concerning Medication Adherence on Knowledge of Hypertensive Patients at AL-Razi Center in Al-Basra Governorate)**, was prepared under my supervision at College of Nursing, University of Baghdad in partial fulfillment of the requirements for the degree of Master in Nursing Science.

Prof .Dr. Huda B. Hassan

College of Nursing

University of Baghdad

/ / 2019

Certification

We, the examining committee, certify that we have read this thesis **(Effectiveness of an Instructional Program Concerning Medication Adherence on Knowledge of Hypertensive Patients at AL-Razi Center in Al-Basra Governorate)** which is submitted by **(Ahmed Thamer Saud)** , from department of Adult Nursing, and we have examined the student in contents, and what is related to it and we decide that is adequate for awarding the degree of (**Master**) in (**Nursing Science**) with specialty of (**Adult Nursing**) and estimate of

Dr. Widad K. Mohammed
Assist. Professor
Chairman
/ / 2019

Dr. Fatma M. Mahmoud
Assist. Professor
Member
/ / 2019

Dr. Abbas Kh. Alwasiti
Consultant
Member
/ / 2019

Dr. Iqbal G. Mua'ala
Professor and Dean
College of Nursing
University of Baghdad
/ / 2019

Approval certification

After reviewing thus thesis, which is entitled **(Effectiveness of an Instructional Program Concerning Medication Adherence on Knowledge of Hypertensive Patients at AL-Razi Center in Al-Basra Governorate),** we certify that it fulfills the entire requirements.

Head of Department of Adult Nursing

Prof. Khalida m. Khider

College of Nursing

University of Baghdad

/ / 2019

Associate dean for academic affairs

Prof. Dr. Huda B. Hassan

College of Nursing

University of Baghdad

/ / 2019

Dedication

Praise be to Allah and gratitude for His kindness and mercy

To our popular mobilization forces and warriors of the Iraqi army who shed their blood on the land of our dear country and through this pure blood we have the capability to fulfill such achievements.

To my dearest mother, the source of kindness and my symbol of loyalty, who stayed up many nights for my comfort and happiness, supporting me in completing the project.

To my first teacher, my Father, without his teaching, upbringing, and sacrifice for my happiness and comfort, I would not have been where I am today.

To my lovely wife, my inspiration and the essence of my life, who was with me in every step of the way during my scientific research and encouraged me through her support, to the completion of the thesis.

To my son and my brother, the pleasure of my heart and the sight of my eyes, who make me perfect.

Acknowledgement

At the beginning, I would like to thank and appreciate **Allah; the Almighty**, the Merciful of his slaves, for giving me the power and patience to accomplish my study.

I would like to express my deepest thanks to the Dean of Nursing College, **Prof. Dr. Iqbal Ghanem Mua'ala,** for her cooperation.

And I would like to express my grateful and deepest thanks with appreciation to my supervisor and guide **Prof. Dr. Huda Baqer Hassan** for her continuous support and encouragement to complete my thesis.

Also I would like to thank with appreciation the Head of Adult Nursing Department **Prof. Khalida Muhammad Khider** for her support and cooperation.

I would also like to thank all the experts who have shown their opinion and added some information to the instructional program.

And I would like to thank with appreciation the Head of Al-Razi Center **Dr. Haider Ali** for his help and cooperation.

Also I would like to extend my gratitude and thanks to all the patients participating in the program and their cooperation with me.

Also I express my thanks to the staff of the library and post graduate staff for their cooperation.

The Researcher

Abstract

Hypertension is defined as systolic blood pressure ≥ 140 mmHg and/or diastolic blood pressure ≥ 90 mmHg. It is global public health challenge worldwide that contributes to the burden of hypertensive heart disease, stroke, renal failure, premature morbidity, and mortality. Adherence to anti-hypertensive treatment is a key to guaranteeing success full therapy outcomes (Goldman and Schafer, 2012)

The study aims to find out the effectiveness of an instructional program on patients' knowledge and adherence for medication of hypertension.

Methodology: A quasi-experimental design study is conducted at AL-Razi Center in AL-Basra Governorate. The study started between 8th of October, 2018 to 17th of March, 2019. The sample consists of (50) hypertensive patients who attended AL-Razi Center. Data were collected throughout the utilization of the adopted questionnaire and interview technique. The questionnaire is composed of (44) items related to patient's adherence and knowledge toward importance of medication compliance. The reliability of instrument was 0. 74 by using cronbachs alpha, and the data analysis by using statistical methods which are (descriptive, and inferential statistics).

Results: The findings of the present study revealed that there was improvement in the patients' knowledge and their adherence toward hypertensive medication at post test of program which is of the total mean of score (1.71) of them for their compliance to medication uses, and the patients not compliance was reduced to (24.7%).

Conclusion: The study concluded that the instructional program has positive effect on patients and the results of the study demonstrate significant changes in their knowledge between pre and post knowledge, the patients' knowledge was changed from moderate grade level in pre-test to high grade level in post-test.

Recommendations: The study recommends establishing specific department in each treating center of hypertension to provide patients with information about the importance of compliance and follow up when patients need to change their drugs.

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	Program and Patients level of education, residency, duration of hypertension, family history, and follow up	

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Terms	Meanings
ACE	Angiotensin Converting Enzyme
ACTH	Adrenocorticotropic Hormone
AHA	American Heart Association
BP	Blood pressure
BUN	Blood Urea Nitrogen
Ca2+	Calcium
CBC	Complete Blood Count
Cl–	Chloride
CVD	Cardiovascular Disease
DASH	Dietary Approaches to Stop Hypertension
Et. al.	And Others
HDL	High-Density Lipoprotein
HTN	Hypertension
K+	Potassium
MM\ HG	Millimeter Of Mercury
MOH	Ministry Of Health
Na+	Sodium
NSAIDs	Non-steroidal anti-inflammatory drugs
WHO	World Health Organization

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Chapter One

Introduction

Chapter One

1.1. Introduction

Hypertension (HTN), is the most common health problem among persons and can cause stroke, myocardial infarction (heart attack), kidney failure, and death if not treated early and effectively, patients with specific risk factors for developing hypertension should be treated at any age, as described later with drug therapy (Ignatavicius, et al., 2016)

Approximately 1 in every 3 American adults has hypertension and only about half have their blood pressure controlled. In addition to therapeutic lifestyle modifications as a first intervention for blood pressure control among those with hypertension, adherence to prescribed antihypertensive medication regimens is also necessary. Good adherence to medication has been associated with greater odds of blood pressure control (Chang, et al., 2017).

Globally, it is also one of the major causes of premature death, and 7.1 million of people die from hypertension related diseases annually and the problem is still increasing globally. More than 25% of the adult people worldwide have been diagnosed as having hypertension, and the prevalence of hypertension increases with age (Tibebu, et al., 2017).

Hypertension may not cause symptoms for a long time and its significant complications may occur after years there for is called "silent killer". In the absence of symptoms, the treatment by the patient is difficult to accept. Antihypertensive drug therapy is the key method for long-term control of blood pressure. Therefore, the adherence of the patient is of almost importance in the treatment of hypertension (Boratas and Kilic, 2018).

Diagnosis and treatment of hypertension plays an important role in reducing morbidity and mortality rates from coronary artery diseases and cerebral strokes. However, in many countries controlling hypertension has

actually been dropped in recent years. In Iran approximately 26 people out of 100 have hypertension, only 13 of which are aware of their disease. On the other hand, 24% of the patients with hypertension are treated in Iran, only 8% of which are controlled, something that is not just exclusive to Iran and is extended to the whole world (Mahmoudian, et al., 2018).

Currently, hypertension is the second most important preventable risk factor of premature deaths contributing to 13% of global deaths. Of the 17 million deaths due to Cardiovascular Disease (CVD) worldwide, complication of HTN accounts for 9.4 million every year. It is also responsible for at least 45% of deaths due to heart disease and 51% of deaths due to stroke. In Ethiopia, 3.5% of all deaths are due to HTN, making it the seventh leading cause of death in the country (Teshome, et al., 2017).

Despite the effectiveness of antihypertensive therapies, the proportion of patients regularly taking their medication is decreased, even in the context of secondary prevention. It is estimated that about half of the patients being prescribed antihypertensive drugs stop taking treatment within the first year. A similar level of adherence is observed among patients with uncontrolled and/or resistant hypertension (Lefort, et al., 2018).

The effectiveness of medications to treat hypertension must be achieved by optimal medication adherence. Medication adherence is defined as the process by which patients take their medication as their prescribed. Optimal antihypertensive drug adherence has significantly positive association with blood pressure control (Pan, et al., 2017).

The restrictions that affect adherence to antihypertensive medications are complex. The World Health Organization (WHO) classified those multidimensional factors into patient condition, social/economic, therapy, and health care team-related factors. Community management is the

main factor that affects the treatment and control of blood pressure in patients with hypertension (Zhang, et al., 2018).

Many interventions have been tested to improve Blood pressure (BP) control in patients with hypertension. The findings from randomized controlled trials have indicated that the use of antihypertensive drug therapy is one of the most effective ways to reduce both systolic and diastolic BP. Medication adherence is therefore critical to achieve and sustain BP control, but barriers to optimal medication adherence are complex and multi-dimensional, especially for rural patients (Wu, et al., 2018).

Patients with low medication adherence have a high risk in terms of uncontrolled blood pressure and adverse outcomes that may increase. It has been proven that involvement of patients in decision making, and taking disease and treatment seriously by the patients affects the medication adherence positively (Lefort, et al., 2018).

Low adherence to antihypertensive medications is interfered in the management of hypertension resulting in high rate of hospitalization and death it undermines the efforts of health facilities, health professionals, and policy makers for the modification and improvement of the health of patients. Low adherence will be the main source of psychological and medical complications and has an impact on patient’s quality of life, wasting health care resources and reducing individual's believe towards the health care system (Mekonnen, et al., 2017).

1.2. Importance of the Study

Uncontrolled hypertension is still a big medical and psychosocial problem in developed and developing countries. Even if the risk factors, prevention, and controlling mechanisms are present, the negative outcomes resulting from the disease will possibly continue for many years. This makes

hypertension the biggest and most terrible social and health related challenges (Mekonnen, et al., 2017).

Hypertension is a common cardiovascular problem worldwide, contributing 4.5% of the global disease burden and 12.8% premature deaths annually, according to the World Health Organization, more than 80% of deaths from hypertension and associated cardiovascular diseases occur in low and middle-income countries, especially among people of low socioeconomic status (Adisa, et al., 2018).

Hypertension is one of the major modifiable risk factors of cardiovascular disease (CVD)-related morbidities and mortalities. It is a global public health problem affecting nearly one billion people, and is estimated to increase to 1.56 billion adults by the year 2025 (Teshome, et al., 2017).

Antihypertensive medication is one of the major ways to manage hypertension to an optimal blood pressure control level. Medication adherence, which significantly reduces the risk of CVD and associated deaths, is a very important predictor of optimal blood pressure control .The control of hypertensive patients is low in Sub-Saharan Africa, and evidence suggests that medication of non-adherence is a potential modifiable risk factor for poor BP control (Mekonnen, et al., 2017).

Adisa, Ilesanmi, and Fakeye, (2018) estimated that more than 70% of patients on antihypertensive drugs do not take them as prescribed. The non-adherence practice may be particularly high in developing countries where there is poor accessibility to medicines and healthcare services, as well as low level of awareness about the lifelong nature of hypertension management among patients

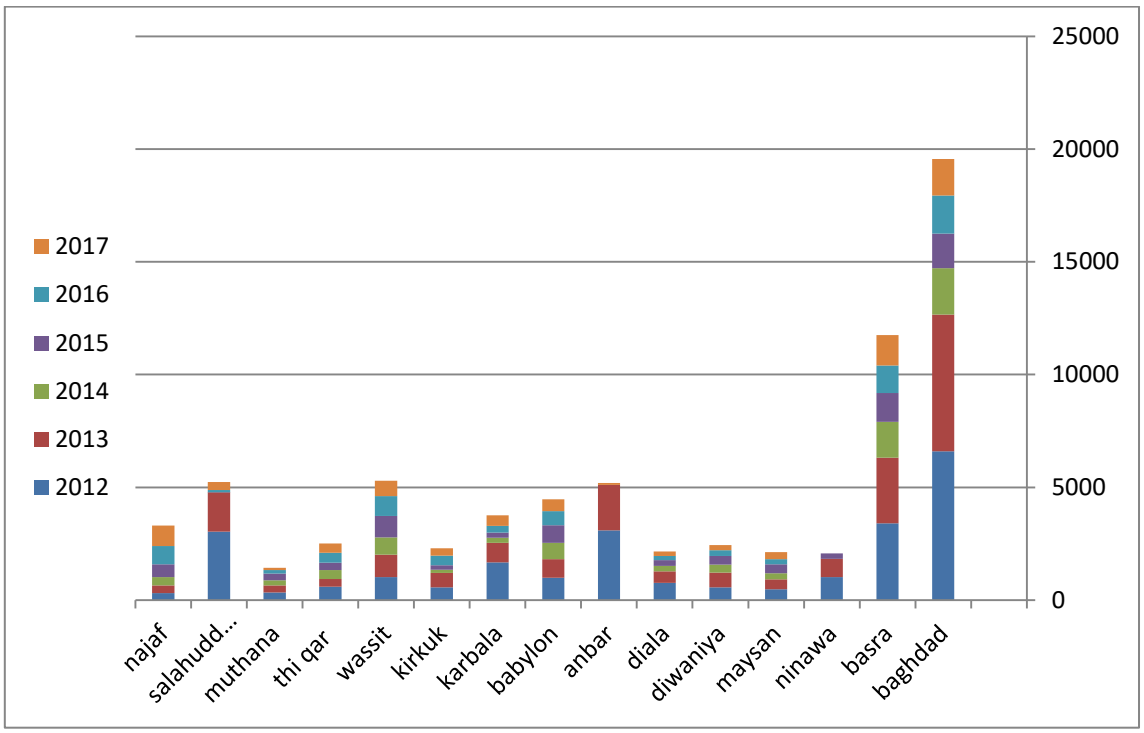
Despite a wide range of both cost-effective and efficient antihypertensive medicines, blood pressure control remains insufficient. national studies estimate that only 21–31% of Slovak patients have controlled hypertension. Low adherence to antihypertensive medication intake belongs to the key risk factors of uncontrolled blood pressure, resulting in increased risk of hospitalization, stroke, and premature death. World Health Organization estimates the overall adherence to medication intake in patients with chronic diseases at 50%; while the latest European finding shows a varying adherence in the range of 26–70%.To reduce the mortality and morbidity of cardiovascular diseases, it is crucial to control hypertension. However, a systematic review that assessed the control of the disease in Brazilian publications showed rates below 50% in most studies, except for two, which showed rates of 52.4% and 57.6%. Controlling hypertension is directly related to treatment of adherence, i.e., the follow-up of the patient to the prescribed conduct, changes in lifestyle, a proper diet, and attendance to medical appointments (Haramiova, et al., 2017) and (Feriato, et al., 2017).

Low adherence to antihypertensive medication is associated with poor blood-pressure control and results in poor treatment outcomes, high healthcare costs, an increased risk of cardiovascular illness and poor quality of life. There are many reasons for the low adherence, including doubts about treatment efficacy, low health literacy, financial issues, perceptions about the disease and individual beliefs, as well as ethnicity, age group and income level (Tan, et al., 2017).

Many of various interventions aiming to improve medication adherence in hypertension have been studied. Interventions to improve adherence can be classified into different categories including behavioral (e.g. reminders and patient diaries), technical (e.g. dosage simplification and special packaging), educational (e.g. providing knowledge and information

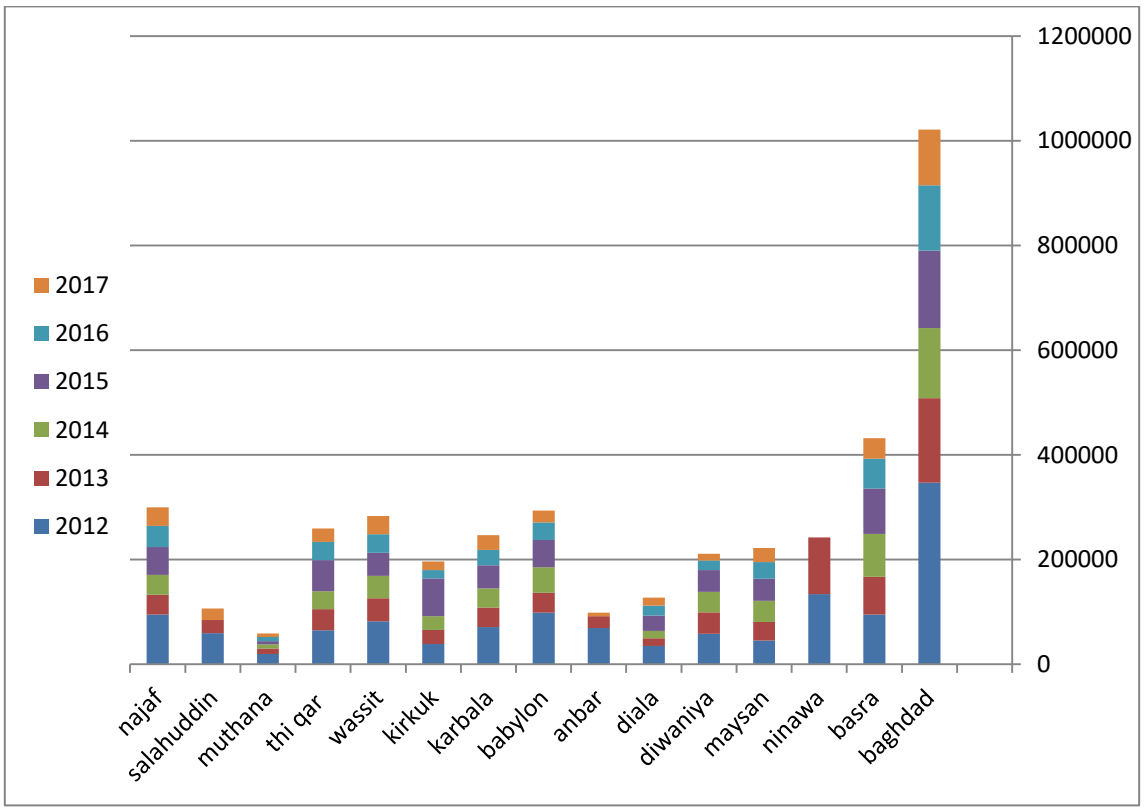
related to the disease), structural interventions (e.g. disease management program).and social support (e.g. buddy system) (Tan, et al., 2017).

The Ministry of Health (MOH) recorded the incidence of hypertension in Iraqi governorate from (2012-2017) which is shown in figure (1-1), and the visiting of hypertensive patient for primary health center in Iraqi governorate from (2012-2017) was illustrated in figure (1-2)



(MOH statistics , 2018)

Figure (1-1): The incidence of hypertension in Iraq governorate, (from 2012-2017)



(MOH statistics , 2018)

Figure (1-2): The visiting of hypertensive patients for primary health care center in Iraqi governorate (from 2012-2017)

1.3. Statement of Problem

"Effectiveness of an Instructional program concerning Medication adherence on Knowledge of Hypertensive Patients at AL-Razi Center in Al-Basra Governorate"

1.4. Aims of the Study: the present study aims to:

1.4.1-find out the effectiveness of an instructional program on Patients knowledge

1.4.2-find out the relationship between the effectiveness of instruction program and patients gender, age group, level of education, income and duration of disease.

1.5. Research Question

Does the Instructional program have effect on patients' adherence for Hypertensive medications?

1.6. Hypotheses:

a. H_1 A: The instructional program has positive effect on hypertensive patients' knowledge toward their adherence for medication.

b. H_1 0: The instructional program has no effect on hypertensive patients' knowledge toward their adherence for medication.

1.7. Definition of the Terms.

1.7.1. Effectiveness

1.7.1.a. Theoretical Definition:

The ability to exert a specific measurable influence or to produce specific results (Schillinger, 2010).

1.7.1.b. Operational Definition:

The degree to which the objective is achieved by instructional program concerning medication adherence on patients' knowledge.

1.7.2. Instructional program

1.7.2.a. Theoretical Definition:

The activity which is designed and implemented to complete an instructional goal, namely, some clearly defined change or changes in a selected group of learners (Hornby, 2010).

1.7.2.b. Operational Definition:

A planned literature related to hypertension and importance of treatment plan constructed to achieve appropriate results for patients to adherence for antihypertensive medications.

1.7.3. Medication Adherence

1.7.3.a. Theoretical Definition:

Medication of adherence is defined as the extent to which a patient takes prescribed antihypertensive medications according to the dosage and frequency recommended by the health care provider (Tang, et al., 2017).

1.7.3.b. Operational Definition:

A binding of hypertensive patient for antihypertensive medications.

1.7.4. Knowledge

1.7.4.a. Theoretical Definition:

Information and facts acquired through the education or experience: theoretical or practical understanding of a subject (Doniach, 2014)

1.7.4.b. Operational Definition:

The information of hypertensive patients about the facts of hypertension and their treatment.

1.7.5. Hypertension

1.7.5.a. Theoretical Definition:

Hypertension is increase or high blood pressure above normal range (the systolic and diastolic level ≥ 120/80 mmHg), (Mekonnen, et al., 2017).

1.7.5.b. Operational Definition:

Hypertension is elevated blood pressure than normal range (120/80) mm/hg.

1.7.6. Patient:

1.7.6.a. Theoretical Definition

It is an individual or person who receives or is registered to receive therapeutic treatment (Doniach, 2014).

1.7.6. b. Operational Definition:

The hypertensive patients, who attended to Al-Razi Center to receive drugs, follow up and diagnosed by consultant.

Chapter Two

Review of Literature

Chapter Two

Review of Literature

Chapter two is devoted to review the studies and findings of the studies that support the subject of this research in a way that translates to the reader the importance of the research problem as well as the purpose of study and this chapter is written in a way that reviews information from the general to the specific.

2.1. History of Hypertension

Hypertension is defined in the past as borderline levels of blood pressure that do not fall in the range and hypertension goes back a long way 2600 before Christ when the ancient Chinese show that the quality of an individual's pulse, as sense by mild palpation by the trained physician, was a window into the condition of the cardiovascular system and could suspect hypertension, in 1733, when the English Stephen hales completed his backyard experiments on horses using an almost 10 feet measuring device for the first direct measurement of blood pressure. For us, while many others were trying to develop a practical method for measuring blood pressure, in 1896 Riva-Rocci developed a wraparound rubber cuff that occluded the artery of the upper arm. This was the first portable monitoring device used in humans to measure systolic blood pressure, detected as the first pulse palpated as the cuff was slowly deflated .In 1905, a century ago, a landmark historical conclusion occurred when korotkoff described the systolic and diastolic sounds he heard with a stethoscope, less than the levels that Riva-Rocci palpated using his inflatable cuff. Korotkoff findings led to the clinical recording of blood pressure throughout the world (Saklayen and Deshpande, 2016) and (Zimlichman , 2018).

2.2 Pathophysiology of Hypertension

The better way to understand the pathophysiology of hypertension, a review of normal blood pressure and how it is normally maintained is essential (Ignatavicius, et.al. 2016).

Mechanisms That Influence Blood Pressure.

The control of peripheral vascular resistance occurs by the autonomic nervous system and circulating hormones, such as norepinephrine and epinephrine. Therefore, any factor that increases peripheral vascular resistance, heart rate, or stroke volume leads to increasing the systemic arterial pressure. Conversely, any factor that decreases peripheral vascular resistance, heart rate, or stroke volume leads to decreasing the systemic arterial pressure and can cause decreased perfusion to body tissues. Four control systems play an important role in controlling the blood pressure:

• The arterial baroreceptor system
• Regulation of body fluid volume
• The renin-angiotensin-aldosterone system
• Vascular autoregulation (Goldman and Schafer, 2012).

Arterial baroreceptors are found basically in the carotid sinus, aorta, and the wall of the left ventricle. They monitor the level of arterial pressure and counteract an increase in arterial pressure through vagally mediated cardiac slowing and vasodilation with decreased sympathetic tone. Therefore reflex control of circulation elevates the systemic arterial pressure when it falls and decreases it when it rises (Ignatavicius, et.al, 2016).

Goldman and Schafer, (2012) explained that Changes in fluid volume can affect the systemic arterial pressure. For example, if there is a high rate of sodium and/or water in a person's body, the blood pressure increases through complex physiologic mechanisms that change the venous return to the heart, producing an increase in cardiac output. If the kidneys are functioning adequately, a rise in systemic arterial pressure produces excessive

voiding and a decrease in pressure. Pathologic conditions change the pressure threshold at which the kidneys release sodium and water, thereby altering the systemic arterial pressure.

The renin-angiotensin-aldosterone system also controls blood pressure. The kidney produces renin, an enzyme that acts on angiotensinogen (a plasma protein substrate) to Separated angiotensin I, which is converted by an enzyme in the lung to form angiotensin II. Angiotensin II has strong vasoconstrictor action on blood vessels and is the regulating mechanism for aldosterone release, and aldosterone then acts on the collecting tubules in the kidneys to reabsorb sodium. Sodium retention discouraged fluid loss, thus increasing blood volume and subsequent blood pressure. When the blood pressure is rising, rennin levels should decrease because the rise renal arteriolar pressure usually inhibits renin secretion. However, rennin levels remain normal for most people with essential hypertension. The process of vascular auto regulation, which keeps perfusion of tissues in the body relatively constant, appears to be important in causing hypertension. However, the exact mechanism of how this system works is poor to understand (longo, et.al, 2012) and (Goldman and Schafer, 2012).

Smeltzer, et.al, (2010) estimated that there are several hypotheses about the pathophysiologic bases of elevated blood pressure are associated with the concept of hypertension as a multifactorial condition. Giving the overlap among these hypotheses, it is likely that aspects of all of them will eventually prove correct. Hypertension may be caused by one or more of the following:

• Dysfunction of the autonomic nervous system leads to increasing sympathetic nervous system activity

• Genetic variation in the pathways by which the kidneys handle sodium leads to increasing renal reabsorption of sodium, chloride, and water.

• Increased activity of the renin-angiotensin-aldosterone system, resulting in expansion of extracellular fluid volume and increased the systemic vascular resistance.

• Dysfunction of the vascular endothelium leads to decreasing vasodilation of the arterioles.

• Resistance to insulin action, which may be a common factor linking hypertension, glucose intolerance, obesity, hypertriglyceridemia, and type 2 diabetes mellitus (Smeltzer, et.al, 2010).

2.3 Classification of Hypertension

The hypertension is classified as a three grade (1, 2, and 3) by The sixth report of the Joint National Committee (JNC VI) which used these terms, similar to those used to explain cancer progression, therefor the health care professionals would be aware that continues elevations in blood pressure are associated with increased risks to health. Even within the normotensive range, three levels of blood pressure— optimal, normal, and high-normal— were specified to emphasize that the lower the blood pressure, the lower the risk. The JNC VI also shows recommendations for follow-up monitoring according to initial readings of blood pressure at the time of diagnosis (Talley and O'Conner, 2017) and (White, Duncan, Baumle, 2011).

The classification of hypertension is shown in table (2-1) according to Colledge, et al., (2010).

Table (2-1): The classification of hypertension

Category	**Systolic BP (mmHg)**	**Diastolic BP (mmHg)**

BP		
Optimal	**< 120**	**< 80**
Normal	**< 130**	**85**
High normal	**130–139**	**85–89**
Hypertension		
Grade 1 (mild)	**140–159**	**90–99**
Grade 2 (moderate)	**160–179**	**100–109**
Grade 3 (severe)	**≥ 180**	**≥ 110**
Isolated systolic hypertension		
Grade 1	**140–159**	**< 90**
Grade 2	**≥ 160**	**< 90**

(Colledge, et.al, 2010)

2.4 Etiology of Hypertension

2.4:A. primary "Essential Hypertension":

Essential hypertension is applied to the 90% to 95% of hypertensive patients in which increased blood pressure results from interactions between multiple genetic and environmental factors. The proportion regarded as “essential” will decrease with improved detection of clearly defined secondary causes and with understanding of pathophysiology, the cause for the elevation in blood pressure cannot be identified (Papadakis and McPhee, 2019) and (White , et al., 2011).

2.4:B. Secondary Hypertension

Approximately 5% to 10% of patients have hypertension secondary to identifiable specific causes. Secondary hypertension should be suspected in patients in whom hypertension develops at <35 years or after the age of 50 years, and in those previously well controlled who become refractory to

treatment. Hypertension resistant to three medications is another clue, although multiple medications are usually required to control hypertension in persons with diabetes (Smeltzer, et.al, 2010) and (Durkin, 2013).

Secondary causes include genetic syndromes, kidney disease, renal vascular disease, primary hyperaldosteronism, Cushing syndrome, pheochromocytoma, coarctation of the aorta and hypertension associated with pregnancy, estrogen use, hypercalcemia, and medications (Papadakis and McPhee, 2019).

2.4:B.1. Genetic Causes

Depending on Mendelian basis hypertension can also be caused by mutations in single genes. Although rare, these conditions provide important information about blood pressure regulation and possibly the genetic basis of essential hypertension. Glucocorticoid remediable aldosteronism is a dominant cause of early-onset hypertension with low renin levels and normal or high aldosterone. It is caused by the formation of a chimeric gene encoding both the enzyme responsible for the synthesis of aldosterone (transcriptionally regulated by angiotensin II) and an enzyme responsible for synthesis of cortisol (transcriptionally regulated by Adrenocorticotropic hormone (ACTH)). aldosterone synthesis becomes driven by ACTH, which can be inhibited by exogenous cortisol. Early onset hypertension with hypokalemic metabolic alkalosis is inherited on an autosomal recessive basis in the syndrome of apparent mineralocorticoid excess (Goldman and Schafer, 2012).

2.4:B.2. Renal Disease

Colledge, et.al, (2010) explained that renal parenchymal disease is one of the most common causes of secondary hypertension and is related to increased activity of the renin–angiotensin–aldosterone system and increased intravascular volume. Increased sympathetic nerve activity may also contribute.

2.4:B.3. Renal Vascular Hypertension

The renal artery stenosis is found in 1–2% of hypertensive patients. The most common cause is atherosclerosis, but fibro muscular dysplasia should be suspected in female less than 50 years of age. Excessive renin release occurs due to reduction in renal perfusion pressure, while attenuation of pressure natriuretic contributes to hypertension in patients with a single kidney or bilateral lesions. Activation of the renal sympathetic nerves may also be important (Papadakos and McPhee, 2019) and (Kumar and Clark, 2009).

Renal vascular hypertension should be suspected in the following circumstances:

(1) The documented onset is before age 20 or after age 50 years.

(2) The hypertension is resistant to three or more drugs.

(3) There are epigastric or renal artery bruits.

(4) There is atherosclerotic disease of the aorta or peripheral arteries (15–25% of patients with symptomatic lower limb atherosclerotic vascular disease have renal artery stenosis).

(5) There is an abrupt increase (more than 25%) in the level of serum creatinine after administration of angiotensin-converting enzyme (ACE) inhibitors.

(6) Episodes of pulmonary edema are associated with abrupt surges in blood pressure (Papadakos and McPhee, 2019).

2.4:B.4. Primary hyperaldosteronism

Hyperaldosteronism should be considered in people with resistant hypertension, blood pressures consistently greater than 150/100 mm Hg, hypokalemia (irrespective of diuretic exposure), adrenal incidentaloma, and in those with a family history of hyperaldosteronism, hypertension of aldosterone is estimated to be present in 5–10% of hypertensive patients, is the most common cause of resistant hypertension. The initial screening step is the simultaneous measurement of aldosterone and renin in blood in a morning sample collected after 30 minutes quietly seated (Longo, et.al, 2012).

2.4:B.5. Cushing syndrome

Hypertension occurs in about 80% of patients with spontaneous Cushing syndrome. Excess glucocorticoid may act through water and salt retention, increased angiotensinogen levels, or permissive effects in the regulation of vascular tone (Colledge, et.al, 2010).

2.4:B.6. Pheochromocytoma

Pheochromocytoma are uncommon, they are probably present in less than 0.1% of all patients with hypertension and in approximately two individuals per million of population. However, autopsy studies indicate those pheochromocytoma are often undiagnosed in life. The blood pressure elevation caused by the catecholamine excess results mainly from alpha-receptor– mediated vasoconstriction of arterioles, with a contribution from beta-1-receptor-mediated increases in cardiac output and renin release (Goldman and Schafer, 2012).

2.4:B.7. Coarctation of the aorta

Coarctation of the aorta is uncommon cause of hypertension, evidence of radial-femoral delay and it should be sought in all younger patients with hypertension (Papadakos and McPhee, 2019).

2.4:B.8. Hypertension associated with pregnancy

Hypertension occurring or worsening during pregnancy, including preeclampsia, is one of the most common causes of maternal and fetal morbidity and mortality. Autoantibodies with the potential to activate the angiotensin II type 1 receptor have been causally implicated in preeclampsia, in resistant hypertension, and in progressive systemic sclerosis (Kumar and Clark, 2009).

2.4:B.9. Estrogen use

Papadakos and McPhee, (2019) stated that a mild increase in blood pressure occurs in most women who take oral contraceptives. A more significant increase above 140/90 mm Hg is observed in about 5% of women, mostly in obese individuals older than age 35 who have been treated for more than 5 years. This is caused by increased hepatic synthesis of angiotensinogen. Postmenopausal estrogen does not cause hypertension but rather maintains endothelium-mediated vasodilation.

2.4:B.10. Other causes of secondary hypertension

Hypertension has been associated with hypercalcemia, acromegaly, hyperthyroidism, baroreceptor denervation, hypothyroidism, increased intracranial pressure, and compression of the rostral ventrolateral medulla. A number of medications may cause or exacerbate hypertension—most importantly cyclosporine, angiogenesis inhibitors, tacrolimus, and erythrocyte stimulating agents (such as erythropoietin). Non-steroidal anti-inflammatory

drugs (NSAIDs), Decongestants, cocaine and alcohol should also be considered (Goldman and Schafer, 2012).

2.5. Risk Factors for Hypertension

The combination of genetic (non-modifiable) that cannot be changed and environmental, that can change (modifiable) risk factors is thought to be responsible for the development of hypertension (Williams and Hopper, 2011)

2.5:A. Non-modifiable Risk Factors

2.5:A.1-Family History of Hypertension

Hypertension is more common in people with a family history that have hypertension. Indeed, people with a family history have almost more the risk of developing hypertension as those with no family history and therefore should be encouraged to have their blood pressure checked regularly (Durkin, 2013).

2.5:A.2-Age

The aging process may be reflected in widespread of blood pressure among elderly people. As a person ages, plaque builds up in the arteries, and blood vessels become stiffer and less elastic, causing the heart to work harder to force blood through the vessels. These vessel changes increase the amount of work required by the heart to maintain blood flow into the circulation and, consequently, blood pressure increases (Williams and Hopper, 2011).

2.5:A.3-Race

The hypertension tends to develop in African-Americans more often than people of any other racial background in the United States. African Americans from lower socioeconomic backgrounds have higher blood

pressure than European Americans from higher socioeconomic backgrounds. Additionally, African Americans are three to four times more likely to develop kidney failure related to hypertension than European Americans (American Heart Association (AHA), 2017).

2.5:B. Modifiable Risk Factors

Williams and Hopper, (2011) explain that many patients with hypertension are advised to change many lifestyle modifications to reduce the risk of hypertension and these Lifestyle modifications are often used with antihypertensive drugs to control hypertension and enhance drug effects, and many of these modifications are:

2.5:B. 1-Weight Reduction

Weight reduction is one of the most important lifestyle modifications to lower blood pressure because, there is a high relationship between increasing the body weight and increased blood pressure. The health care provider and dietitian should be consulted to help the patient to make a plan for reduced weight (AHA, 2017) and (Kumar and Clark, 2009).

2.5:B.2-Meal Planning

High blood pressure is associated with a diet that contains high salt. Patients whose blood pressure can be decreased by restricting dietary sodium are called salt sensitive. This sensitivity is specifically common among African Americans, elderly persons, and patients with diabetes and obesity. Patients with hypertension should be not added salt while cooking. Should also be avoiding take caffeine. Intake of caffeine should be limited because it can increase aortic hardness or stiffness. This increases the risk of cardiovascular disease for those with high blood pressure (Williams and Hopper, 2011).

Potassium, Magnesium, and Calcium should be ensured to the patient to adequate intake because decreasing the level of this nutrition can also increase risk of cardiovascular events. Foods rich in potassium include oranges, bananas, and broccoli. Magnesium is found in green vegetables such as spinach, nuts, seeds, and some whole grains. Milk, yogurt, and spinach are rich in calcium, and possible, fresh or frozen foods should be selected rather than canned foods to increase intake of these nutrients (Durkin, 2013).

2.5:B.3-Alcohol Consumption

The regular consumption of drinks per day can increase the risk of hypertension and cause resistance to antihypertensive therapy. And the patient should be constricting the alcohol drinking because the Blood pressure may decrease or return to normal when alcohol consumption is modified (Stibich, 2018) and (Kumar and Clark, 2009).

2.5:B.4-Exercise

Patients with low exercise are risk for obesity and they become more risky for hypertension and many other cardiovascular diseases. Exercise helps to prevent and control hypertension by reducing weight, decreasing body fat, and decreasing peripheral resistance. A patient who is able to do exercise should participate in regular aerobic physical activity, such as brisk walking, for at least 30 minutes daily on most days of the week, bicycling, and swimming (Olack, 2015).

2.5:B.5-Smoking

Smoking is a major risk factor for cardiovascular disease and hypertension because nicotine constricts the blood vessels, there for Nurses should counsel patients with hypertension to stop smoking to reduce risk of cardiovascular risk (AHA, 2017).

2.5:B.6-Diabetes Mellitus

There are many adults who have diabetes mellitus also have hypertension. The risk of developing hypertension with a family history of diabetes is greater than when there is no family history. Lifestyle modifications and adherence to therapy are crucial to prevent the heart attacks, strokes, blindness, and kidney failure associated with high blood glucose and blood pressure levels (Durkin, 2013).

2.6. Clinical Manifestations

Smeltzer, (2010) explained that hypertension is sometimes called "the silent killer" because people who have it are often symptom free until it becomes chronic or severe and target organ damage. Patients with severe hypertension may experience a variety of symptoms related to effects on blood vessels in the tissues and various organs or to increased work of the heart.

Symptoms may include: headache, nosebleeds, blurring of vision, fatigue, activity intolerance, dizziness, palpitations, dyspnea, insomnia (Williams and Hopper, 2011).

2.7. Assessment and Diagnostic Evaluation of Hypertension

A thorough health history and physical examination are necessary. The retina examined, and laboratory studies are performed to assess possible target organ damage. Routine laboratory tests include urinalysis, blood chemistry (example, analysis of sodium, potassium, creatinine, fasting glucose, and total and high-density lipoprotein (HDL) cholesterol levels), and a 12-lead electrocardiogram. Left ventricular hypertrophy can be assessed by echocardiography and ECG. Renal damage may be suggested by elevations in Blood Urea Nitrogen (BUN) and creatinine levels or by micro-albuminuria or

macro-albuminuria. Other studies, such as creatinine clearance, renin level, urine tests, and 24-hour urine protein, may be performed (Talley and O'Conner, 2016) and (Cameron, 2010)

Table (2-2): List of laboratory test for hypertensive patient with rationale

	Name tests	Rationale
	Chest X-ray	to detect cardiomegaly, heart failure, coarctation of the aorta
	Ambulatory BP recording	to assess borderline or 'white coat' hypertension
	Echocardiogram	to detect or quantify left ventricular hypertrophy
	Renal ultrasound	to detect possible renal disease
	Renal angiography	to detect or confirm presence of renal artery stenosis
	urinary catecholamines	to detect possible phaeochromocytoma
	Urinary cortisol and dexamethasone suppression test	to detect possible Cushing's syndrome
	Plasma renin activity and aldosterone	to detect possible primary aldosteronism

(Colledge, et al., 2010)

2.8. Management of Hypertension:

The primary goal of management hypertensive patient is to obtain the maximum reduction in the risk of cardiovascular morbidity and mortality, and also help hypertensive patients to live a longer life. This needs treatment of all reversible risk factors such as smoking, obesity, diabetic mellitus, and

appropriate management of associated disease conditions as well as treatment of raised blood pressure (Colledge, et al., 2010)

The objectives of nursing role for hypertensive patients focuses on reducing and controlling the blood pressure without adverse effects and without high cost. To achieve these goals, the nurse must support and teach the patient to adhere to the treatment regimen by implementing necessary lifestyle modifications, taking antihypertensive medications as prescribed, and scheduling regular follow-up appointments with the health care provider to monitor progress or identify and treat any complications of disease or therapy (Smeltzer, et al., 2010)

2.8.1. Lifestyle Modifications:

Goldman and Schafer, (2012) and Papadakis and McPhee, (2019) showed that lifestyle modifications may have an effect on morbidity and mortality. A diet rich in vegetables, fruits, and low in saturated and total fats (Dietary Approaches to Stop Hypertension (DASH) Diet) and low-fat dairy foods has been shown to lower blood pressure. Dietary fiber seems especially important. For every 7 g of dietary fiber ingested, cardiovascular risk could be lowered by 9%. Increased dietary fiber lowers blood pressure. The effect of diet on blood pressure may be mediated by shifts in the microbial species in the gutAdditional measures, listed in Table (2-3)

Table (2-3): Effect of diet on blood pressure

Modification	Recommendation	Approximate Systolic BP Reduction, Range
Weight reduction	Maintain normal body weight (BMI, 18.5–24.9)	5–20 mm Hg/10 kg weight loss
Adopt DASH eating plan	Consume a diet rich in vegetables, fruits, and low-fat dairy products with a reduced content of total fat and saturated fat	8–14 mm Hg
Dietary sodium reduction	Reduce dietary sodium intake to no more than 100 mEq/day (2.4 g sodium or 6 g sodium chloride)	2–8 mm Hg
Physical activity	Engage in regular aerobic physical activity such as walking (at least 30 minutes per day, most days of the week)	4–9 mm Hg
Moderation of alcohol consumption	Limit alcohol consumption	2–4 mm Hg

(Papadakis and McPhee, 2019)

Smeltzer, et al., (2010) stated in their studies that the diet high in vegetables, fruits, and low-fat dairy products can prevent the development of hypertension and can lower elevated pressures. Table (2-4) delineates the Dietary Approaches to Stop Hypertension (DASH) diet.

Table (2-4): List of DASH (Dietary Approaches to Stop Hypertension) Diet

Food group	NO. SERVINGS PER DAY
Grains and grain products	7-8 servings a day
Vegetables	4-5 servings a day
Fruits	4-5 servings a day
Low fat or fat-free dairy foods	2–3 servings a day
Meat, fish, and poultry	2 servings or fewer a day
Nuts, seeds, and dry beans	4–5 servings weekly

(Smeltzer, et.al, 2010)

2.8.2 Antihypertensive Medications:

The patients must take antihypertensive medications regularly to maintain blood pressure within normal ranges by the simplest and safest means possible with the fewest side effects for each individual patient (Kizior and Hodgson, 2019).

2.8:2.A Thiazide and Other Diuretics.

Diuretics were the first widely prescribed drug class used to treat HTN in the 1950s. Despite many advances in pharmacotherapy, diuretics are still considered first-line drugs for this disease because they produce few adverse effects and are very effective at controlling mild to moderate HTN. Although many different diuretics are available for HTN, all produce a similar outcome: the reduction of blood volume through the urinary excretion of water and electrolytes. Electrolytes are ions such as sodium (Na^+), calcium (Ca^{2+}), chloride (Cl^-), and potassium (K^+) (Adams ,et al., 2014).

An appropriate daily dose is 2.5mg bendroflumethiazide or 0.5mg cyclopenthiazide. More potent loop diuretics, such as bumetanide 1mg daily or furosemide 40mg daily, have few advantages over thiazides in the

treatment of hypertension unless there is substantial renal impairment or they are used in combination with Angiotensin Converting Enzyme (ACE) inhibitors (Kizior and Hodgson, 2019).

2.8:2.B. Angiotensin Converting Enzyme Inhibitors (ACE) Inhibitors

Angiotensin converting enzyme inhibitors are commonly used as the initial medication in mild to moderate hypertension. Their primary mode of action is inhibition of the renin–angiotensin– aldosterone system, but they also inhibit bradykinin degradation, stimulate the synthesis of vasodilation prostaglandins, and can reduce sympathetic nervous system activity. These latter actions may explain why they exhibit some effect even in patients with low plasma renin activity (Papadakis and McPhee, 2019).

Colledge, et al., (2010) pointed that ramipril 5–10mg daily, enalapril 20mg daily or lisinopril 10–40mg daily) slow down the conversion of angiotensin I to angiotensin II and are usually well tolerated. They should be used with special care in patients with impaired renal function or renal artery stenosis because they can reduce the filtration pressure in the glomeruli and precipitate renal failure. Creatinine and electrolytes should be checked before and 1–2 weeks after commencing therapy. Side-effects include first dose hypotension, cough, hyperkalemia, rash, and renal dysfunction.

2.8:2.C. Angiotensin receptor blockers

The use of valsartan 40–160mg daily, irbesartan 150– 300mg daily are used as a block action of the angiotensin II type I receptor, therefor, they reduce the peripheral resistance and blood pressure and have similar effects to ACE inhibitors; however, they do not cause cough and are better tolerated (Williams And hopper, 2011) .

2.8:2.D. Calcium channel antagonists

The dihydropyridines (e.g. nifedipine 30–90 mg daily, amlodipine 5–10 mg daily) are effective and usually well-tolerated antihypertensive drugs that are particularly useful in older patients. Side effects include palpitations, flushing, and fluid retention. The rate-limiting calcium channel antagonists (e.g. verapamil 240 mg daily, diltiazem 200–300 mg daily,) can be useful when hypertension coexists with angina but they may cause bradycardia. The main side-effect of verapamil is constipation (Adams, et al., 2014).

2.8:2.E. Beta-blockers

The Beta-adrenergic blockers competitively block beta adrenergic receptors, located primarily in myocardium, and beta2 -adrenergic receptors, located primarily in bronchial and vascular smooth muscle. By occupying beta-receptor sites, these agents prevent naturally occurring or administered epinephrine/norepinephrine from exerting their' effects. The results are basically opposite to those of sympathetic stimulation. Effects of beta1 blockade include slowing heart rate, decreasing cardiac output and contractility; effects of beta2 blockade include bronchoconstriction, increased airway resistance in patients with asthma or Chronic Obstructive Pulmonary Disease. Beta blockers can affect cardiac rhythm/automaticity (decrease sinus rate, Sino atrial node / atrioventricular conduction; increase refractory period in atrioventricular node); decrease systolic and diastolic, exact mechanism unknown but may block peripheral receptors, decrease sympathetic outflow from central nervous system , or decrease renin release from kidney. Atenolol (50–100mg daily) , Metoprolol (100–200mg daily) and bisoprolol (5–10mg daily) preferentially block cardiac β1 -adrenoceptors, as opposed to the β2 -adrenoceptors that mediate vasodilatation and bronchodilatation (Kizior and Hodgson, 2019).

2.8:2.F. Carvedilol and Labetalol

The Carvedilol (6.25–25mg 12-hourly) and Labetalol (200mg–2.4g daily in divided doses) are combined β- and α-adrenoceptor antagonists which are sometimes more effective than pure β-blockers. Labetalol can be used as an infusion in chronic or malignant phase hypertension (Williams and hopper, 2011).

2.8:2.G. Other drugs

Papadakis and McPhee, (2019) and Colledge, et.al, (2010) explained a variety of vasodilators may be used. These include the α1 -adrenoceptor antagonists (α-blockers), indoramin (25–100mg 12-hourly), such as prazosin (0.5–20 mg daily in divided doses), and doxazosin (1–16mg daily), and drugs that act directly on vascular smooth muscle, such as minoxidil (10–50mg daily) and hydralazine (25–100mg 12-hourly). Side-effects include first-dose and postural hypotension, tachycardia, headache and fluid retention. Minoxidil unsuitable for female patient because they can cause increased facial hair.

The choice of antihypertensive drug trials that have compared thiazides, calcium antagonists, ACE inhibitors and angiotensin receptor blockers have not shown consistent differences in efficacy, outcome, side-effects or quality of life. Beta-blockers, which are previously featured as first-line therapy in guidelines, have a weaker evidence base.

Colledge, et.al, (2010) explained that choice of antihypertensive therapy is initially dictated by the patient's age and ethnic background, convenience and although cost will affect the exact drug and preparation used. Comorbid conditions also have an influence on initial drug selection table (2-5); for example, a β-blocker might be appropriate treatment for a patient with angina. Thiazide diuretics and dihydropyridine calcium channel antagonists

are the most suitable drugs for the treatment of high blood pressure in older patients.

Table (2-5): The influence of comorbidity on the choice of antihypertensive drug therapy.

Class of drug	**Compelling indications**	**Possible indications**	**Caution**	**Compelling contraindications**
a-blockers	Benign prostatic hypertrophy	-	Postural hypotension, heart failure	Urinary incontinence
ACE inhibitors	Heart failure Left ventricular dysfunction, post-myocardial infarction or established coronary heart disease Type1 diabetic nephropathy Secondary stroke prevention	Chronic renal disease Type2 diabetic nephropathy	Renal impairment Peripheral vascular disease	Pregnancy Reno vascular disease
Angiotensin II receptor blockers	ACE inhibitor intolerance Type 2 diabetic nephropathy Hypertension with left ventricular hypertrophy Heart failure in ACE-intolerant patients, after MI	Left ventricular dysfunction after myocardial infarction Intolerance of other antihypertensive drugs Proteinuric renal disease,	Renal impairment Peripheral vascular disease	Pregnancy

		chronic renal disease, Heart failure		
b-blockers	myocardial infarction, angina Heart failure		Heart failure Peripheral vascular disease Diabetes (except with coronary heart disease)	Asthma or chronic obstructive pulmonary disease Heart block
Calcium channel blockers (dihydropyridine)	Older patients, isolated systolic hypertension	Angina	-	-
Calcium channel blockers (rate-limiting)	Angina	Older patients	Combination with βblockade	Atrioventriculr block, heart failure
Thiazides or thiazide-like diuretics	Older patients, isolated systolic hypertension, heart failure, secondary stroke prevention	-	-	Gout

(Colledge, et.al, 2010)

2.8.3. Continuing Care:

Regular follow-up care is imperative so that the disease process can be assessed and treated, depending on whether control or progression is found. A history and physical examination should be taken at each clinic visit. The history should include all data that pertain to any potential problem, specifically medication related problems such as postural (orthostatic) hypotension, and considerable effort is required by patients with hypertension

to adhere to recommended lifestyle modifications and to take regularly prescribed antihypertensive medications. The effort needed to follow the therapeutic plan may seem unreasonable to some, particularly when they have no symptoms without medications but do have side effects with medications, continued education and encouragement are usually needed to enable patients to formulate an acceptable plan that helps them live with their hypertension and adhere to the treatment plan (Williams And hopper, 2011) and (smeltzer, et al., 2010).

2.9. Complications of Hypertension

Many patients with hypertension are exposed to many complications that result from their lack of adherence to medication or not to change their lifestyle and these complications include: (Papadakos and McPhee, 2019) and (smeltzer, et al., 2010)

2.9:A. Hypertensive Cardiovascular Disease

Cardiac complications are the major causes of morbidity and mortality in primary hypertension. For any level of blood pressure, left ventricular hypertrophy is associated with incremental cardiovascular risk in association with heart failure (through systolic or diastolic dysfunction), ventricular arrhythmias, myocardial ischemia, and sudden death (Papadakos and McPhee, 2019).

2.9:B. Hypertensive Cerebrovascular Disease and Dementia

Hypertension is the major cause of hemorrhagic and ischemic stroke. Cerebrovascular complications are more closely associated with systolic than diastolic blood pressure. The incidence of these complications is markedly reduced by antihypertensive medications. Preceding hypertension is correlated with a higher incidence of subsequent dementia of both vascular and Alzheimer types (smeltzer, et.al, 2010).

2.9:C. Hypertensive Kidney Disease

Persistent high blood pressure is one of the most causes that lead to chronic kidney disease, frequently requiring dialysis. Blood is filtered through the kidneys, and when the blood vessels of the kidney are damaged by chronic uncontrolled hypertension, the body becomes unable to filter waste. People with kidney damage eventually spend hours hooked to dialysis machines that can remove waste products from their bloodstream, or they may require a kidney transplant. In either case, prevention of the complication is preferable and less complex (Shackelford, 2018).

2.9:D. Aortic Dissection

Hypertension is a contributing factor in many patients with aortic Dissection (Papadakos and McPhee, 2019) and (Cameron, 2010).

2.9:E. Atherosclerotic Complications

The severity and duration of the increase in blood pressure determine the extent of the vascular changes causing atherosclerotic complications and organ damage (Williams and Hopper, 2011).

2.10. Medication adherence

Medication adherence was defined by the Word Health Organization as “the extent to which taking medication, a person’s behavior, following a diet, and/or executing lifestyle changes, corresponds to agreed recommendations from a healthcare provider” (Serhal, et.al, 2018).

Adherence to antihypertensive treatment is alarmingly poor. In one European study of patients’ antihypertensive medication compliance, there was a 40% discontinuation rate at 1 year after initiation. Only 39% of patients were found to be taking their medications continuously over a 10-year period.

Collaborative care, utilizing physicians, pharmacists, social workers, and nurses to encourage compliance have had a variable and often rather modest effect on blood pressure control. Adherence is enhanced by the patients' education and by the use of home blood pressure measurement. The choice of antihypertensive medication is important. Better compliance has been reported for patients whose medications could be taken once daily or as combination pills. Adherence is best with ACE inhibitors and Angiotensin II Receptor Blockers, and worse with beta-blockers and diuretics (Papadakis and McPhee, 2019).

There are different factors that affect a hypertensive patient's behavior concerning adherence to antihypertensive treatments. Knowledge about hypertension and its treatment, beliefs about treatment, socio-demographics, patient-provider relationship and the support received from healthcare services are the factors that affect hypertensive patient's adherence. Identifying factors that affects medication adherence is the first step towards improving adherence (Asgedom, Atey, Desse, 2018)

Haramiova, et.al, (2017) showed that adherence to medication is a complex behavior influenced by multiple factors associated with the patient, healthcare providers, healthcare system, and specific treatment. These may result in intentional or may be unintentional patients' non-adherence. While intentional non-adherence is a result of patients' active decision not to take their medication as prescribed, unintentional non-adherence is caused by other factors such as forgetfulness, misunderstanding of the medication regimens, access to medication, or language barriers.

Poor adherence will be the source of psychological and medical complications and has an impact on patients' quality of life, wasting health care resources and reducing individual's believe towards the health care system. Patient-reported barriers to antihypertensive medication adherence

include having negative perceptions about the affordability and necessity of the medications to manage hypertension, forgetting or being physically unable to take the medications as prescribed, and having real or perceived side effects or adverse events related to taking the medication (Ajay, et.al , 2018) and (Mekonnen, et.al, 2017).

Chang, et.al, (2018) stated that health care professionals (HCPs) are well positioned to help their patients overcome many of these barriers to adherence by working in collaboration with their patients and other providers to identify, remove, or minimize the barriers. While there is no single gold standard strategy for improving adherence, it is generally recognized that using multi-pronged interventions is the best approach. Strategies to improve adherence and therefore blood pressure control should include the following interventions:

1. Patients' education about hypertension and the importance of treatment.
2. Description of the potential complications of uncontrolled hypertension.
3. Scheduling a follow-up appointment during the office visit and reconfirmation by telephone.
4. Presenting the drug regimen least likely to result in adverse effects.
5. Choosing the least costly regimen likely to be effective.
6. Prescribing once-a-day regimen, if feasible.
7. Simplifying drug regimen by using a fixed-dose-combination product.
8. Setting a blood pressure goal for the patient.
9. Providing feedback about progress toward the goal.
10. Having patients monitor their blood pressure at home.
11. Enquiring about difficulties with the prescribed regimen.
12. Discussing new treatment strategies with the patient and involving them in the decision process.

2.11. Previous Studies

Adisa et al. (2018) assess 606 patients with hypertension in a cross-sectional study in Sokoto, Northwestern Nigeria to find out the adherence of patients to pharmacotherapy and non-pharmacological measures among ambulatory hypertensive, they concluded that 54 (8.9%) patients were adherent to medications. Forgetfulness (404; 35.2%) was the most common reason for medication non-adherence, this show overall adherence to antihypertensive medications and lifestyle modifications is sub-optimal.

Mahmoudian, et al., (2018) evaluate three hundred patients with hypertension in a cross-sectional study in Isfahan, Iran. their results revealed that there were a lower level of satisfaction was associated with non-adherence to treatment after controlling the physicians' gender and patients' age, gender, education, and duration of disease, they concluded that the patients' satisfaction resulting from building the relationship and empathy with physicians appeared to be associated with medication adherence among hypertensive patients.

Boratas and Kilic , (2018) stated in their cross-sectional study on 147 hypertensive patients who admitted to Akdogan Health Center to evaluate the medication adherence among the hypertensive patients and to identify the influential factors. They concluded that the medication adherence of hypertensive patients included in the study was found to be satisfactory. It was also found that age, duration of hypertension, taking medication regularly and the use of alternative methods were the factors leading to differences in the adherence levels of the patients to the medication.

Pan, et al., (2017) conducted a cross-sectional study among 440 Chinese hypertensive stroke patients in a tertiary hospital in Xi'an, China to assess the knowledge of hypertension and investigate risk factors associated

with medication adherence among hypertensive stroke patients after discharge. They concluded that 35.23% of patients were compliant with their antihypertensive drug treatments, and 42.95%, 52.27% and 4.77% of patients had poor, moderate and adequate knowledge of HTN, respectively. And they founded that the gender, blood pressure (BP) categories, BP monitoring and HTN knowledge were independently associated with antihypertensive medication adherence. They concluded that medication adherence among hypertensive stroke patients was poor and knowledge about hypertension was suboptimal.

Zhang, et al., (2017) assess 1,916 patients with hypertension, to find out the relationship between factors and medication adherence. They founded that they were significantly related to non-adherence with severity of disease, community management, diabetes, and taking traditional medications.

Teshome, et al., (2017) evaluate in a cross-sectional study on 346 participants, to assess the adherence to antihypertensive medications and identify associated factors at Debre Tabor General Hospital, northwest Ethiopia. Their results showed that (75.1%) of the participants were found to be adherent to their medication therapy. they concluded that the hypertensive patients poorly adhere to antihypertensive medications. Age, residence, pill burden, and knowledge about HTN and its treatment are important predictors of medication adherence.

Tibebu, et al., (2017) stated in their study on 404 patients at four public hospitals which were selected by lottery method in Addis Ababa, Ethiopia, who aimed to assess their adherence to prescribed antihypertensive medications and its associated factors. This results revealed that 210 (52%) were males .they found the respondents' adherence to antihypertensive medications was 66.8%. The medication-related adherences were found to be

better in females, patients who had comorbidities and have been knowledgeable about the disease and was poor among young adult respondents. The factors impeding or enhancing the outcome variable were thoroughly analyzed. Sex, age, number of types of medications, and knowledge were associated with medication adherence.

Lo, et al., (2016) stated in cross-sectional correlational study was conducted on 195 older adults with hypertension in Chinese to identify the factors associated with medication adherence older adults with essential hypertension. The result found more than half of the respondent (55.9%) of them was not-adherence to medication. Older age, living alone, and perception related to treatment control were independently associated with increased odds of medication adherence.

Mohammad, et al., (2015) identify a cross-sectional study on 210 hypertensive outpatients selected from clinics located in tertiary-care hospitals and from private cardiology clinics located in Beirut to evaluate the treatment adherence to antihypertensive therapy, their results revealed that 210 patients, 50.5% showed high adherence, 27.1% medium adherence, and 22.4% low adherence to medication and their results showed that calcium channel blockers were associated with increased adherence levels.

Khan, Shah, and Hameed, (2014) conducted a study on 200 patients who attended National Health Service Hospital, Sunderland to evaluate the extent and reasons of non-adherence among the hypertensive patients, their results revealed that more than three-fourth of the hypertensive participants were found to be adherent to their treatment, the major intentional and non-intentional reasons of non-adherence were side-effects and forgetfulness respectively.

Saleem, et al., (2011) assess 385 patients with hypertension in their cross-sectional study who visited outpatient departments in two public

hospitals in Quetta City, Pakistan to evaluate the association between patient's knowledge of hypertension management and medication adherence. They concluded that Out of 385 patients, 236 (61.3 %) of the patients have knowledge about hypertension while 249 (64.7 %) were categorized as poor adherent. No patient was considered as good adherent in the study.

Chapter Three

Methodology

Chapter Three

Methodology

Chapter three represents the form of research design, selection of samples, construction of instructional program, building up research instrument, pilot study, and methods that used in data collection and analysis.

3.1. Design of the Study

A pre-experimental design study was achieved through the pre and post-tests for present sample to evaluate the effectiveness of the instructional program concerning medication of adherence on the knowledge of hypertensive patients at AL-Razi Center in AL-Basra governorate. The study started from 8th of October 2018 to 17 March 2019**.**

3.2. Administrative Arrangements

In order to initiate the present study in a formal manner, an official request must be submitted to the official authorities concerned in this field. Therefore, a formal administrative request was made to the College of nursing and then a formal administrative request had been submitted by the College of Nursing, University of Baghdad to the Central Statistical Organization, Ministry of Planning, and Health Department of Basra, Training and Human Development Center to Al-Razi Center and these official permissions are found in the following appendices:

A. Nursing College, University of Baghdad (Appendix A)
B. Central Statistical Organization, Ministry of Planning (Appendix B)
C. Permission has been obtained from Ministry of Health, Health Department of Basra, Training and Human Development Center to AL-Razi center (Appendix C).

3.3. Setting of the Study

The study was conducted in AL-Razi Center which treats the hypertensive patients and diabetic, and it is located in AL-Basra government.

3.4. Sample of the Study

Non- probability sample consists of (65) patients for both male and female patients chosen randomly who received the instructional program.

3.4.1. Inclusion Criteria of the Sample:

The criteria for selecting the study sample are:

3.4.1.1. Patients diagnosed as hypertension

3.4.1.2. Male and female patients

3.4.1.3. All levels of education

3.5. Steps of Preparing and Applying Program

The instructional program concerns patients' knowledge toward the medication of adherence required the following steps before the application of the program.

3.5.1. Assessing hypertensive patient needs the Instructional Program

The researcher has constructed close – ended questions through the review of available literature, previous study, and interviews the patients in order to apply on hypertensive patients to assess their knowledge toward medication adherence. The objective of this assessment is to assess the needs of hypertensive patients for the program. Data have been collected from (10) patients (male and female) who attended to AL-Razi Center. The questionnaire, for patients assessment (knowledge, adherence), is composed

of (44) questions; (30) questions for knowledge assessment, and (14) questions for medication adherence. Each patient has given a time for about (15-20) minutes about interview; the answers about questionnaire for knowledge assessment items were: (know or not know and not sure) for each item. The results of the assessment are shown in table (3-1) and answers about questionnaire for adherence assessment items were (yes or no) for each item, and the results are shown in table (3-2).

Table 3-1: Assessment of patients' Needs to the instructional Program

Level of knowledge	Frequency	Percentage %
Good (70-79)	**1**	**10.0**
Moderate (60-69)	**3**	**30.0**
fair (50-59)	**6**	**60.0**
Total	**10**	**100%**

The results of table (3-1) reveal that the knowledge level of patients is between moderate and fair level according to their answers about the questionnaire items and (10.0%) of them have good answers.

Table 3-2: Evaluation of patients' adherence to medication

Level of adherence	Percentage %
Adherence	**40.85**
Non- adherence	**59.15**
Total	**100**

The results of table (3-2) reveal that 40.85% of patient's adherence level was compliance to taking their medication. According to the assessment need's result, the researcher prepares the instructional program for hypertensive patients to implement it on them.

3.6. Construction of the Instructional Program

The instructional program was designed on the bases of enhancing and developing adherence of hypertensive patients toward medications, which was conducted through three lectures which included a definition of hypertension, and types and causes of hypertension and risk factors, in addition, signs and symptoms , diagnostic tests for hypertensive patients and therapeutic interventions, complementary therapies, as well as what are the most medication's used , their effects , uses and side effects of medication and the danger of non-adherence to medication and the important of patient adhere to medications .

3.7. Implementation of the Instructional Program

The program began to be applied on the study sample in Al-Razi Center within one month from (8 January 2019 to 28 February 2019).

The program was applied on patients through three lectures, each lecture lasting approximately for 45 minutes and was given at different times according to the patient visit to the center.

For this reason, the application of the program required a long time to ensure that each individual in the case group had obtained all lectures. After the implementation of the program, the post-evaluation of each individual started by 30 days apart from the date of the last lecture, and it was done several days depending on the patients' review to the health center

through the same questioner that was used in pre-test evaluation, for the duration from 24 February 2019 to 28 February 2019.

3.7.1. The Lectures of the instructional program

The program was applied in three lectures have theoretical session, the place of presented in AL-Razi Center, each lecture lasts approximately for (45) minutes.

3.7.1. A. Content of the First Lecture

***Title of the first lecture**: risk factors for hypertension

The first lecture aims at educating patients about the definition of hypertension, main causes, types and risk factors for hypertension.

***Place of the lecture**: lecture hall in AL-Razi Center

***Time of the lecture**: 9- 10 mornings

***Teaching methods that used in the first lecture were:**

- Power point presentations of lectures through data show device
- Discussion inside the lecture
- Posters were given to patients
- Blackboard with pens

3.7.1. B. Content of the Second Lecture

***Title of the second lecture:** symptoms for hypertension

The second lecture aims at educating hypertensive patients with signs and symptoms of hypertension, laboratory tests, therapeutic interventions, supplementary treatments and assistance.

***Place of the lecture**: lecture hall in Al-Razi Center.

***Time of the lecture**: 9-10 mornings

***Teaching methods that are used in the second lecture were:**

- Power point presentations of lectures through data show device
- Discussion inside the lecture
- Posters were given to patients
- Blackboard with pens

3.7.1. C. Content of the third Lecture

***Title of the third lecture:** anti-hypertensive medications

The third lecture aims to educating patient's knowledge about the types of drugs used to reduce the level of blood pressure, contraindications, dosage, side effects, and the risk of non-adherence to medications.

***Place of the lecture**: lecture hall in Al-Razi Center.

***Time of the lecture**: 9-10 mornings

***Teaching methods that are used in the third lecture were:**

- Power point presentations of lectures through data show device
- Discussion inside the lecture
- Posters were given to patients
- Blackboard with pens

3.8. Study Instrument

The instrument of the present study was conducted to reach the objective of the study and the questionnaire was derived from the instructional program, they detail the following:

First part: It is concerned with the patient's demographic data which are gender, age, and level of education, marital status, level of income, living, and occupation.

Second part: it is concerned with the patient's behavior like (Physical activity, smoking, alcohol drinking, food contain a small amount of salt, and drink water in sufficient quantity at least 3 liters per day).

Third part: it is concerned with the medical history of the patient which as (diseases associated with hypertension, have family history of hypertension , frequency of physician's follow up , change the medication without order , alternative practices methods are used to reduce the high blood pressure ,date of medically diagnosed with high blood pressure , date taking medication , does the medication reduce blood pressure , highest reading of pressure , type of medication used , do you take your medication regularly , and body mass index)

Fourth part: it is composed of (30) items which are rated according to know (3), not sure (2), not know (1) score, related to the patient's knowledge.

Fifth part: it consists of (14) items for patient's adherence to medications which are rated according to choice yes or no, scored as yes (2) no (1).

3.9. Validity of the instrument and the Program

The validity of the instrument and the instruction program had been achieved by 10 experts (appendix I) from different scientific branches having at least 10 years of experience in their field of work (mean ±SD of their year of experiences 21±9.87)

They review both the Instrument and the Instructional program in terms of the scientific and linguistic content, sequence of information and its competence to perform the purpose of collecting the sample and improving patient's knowledge toward medication adherence. So, the corrections were made to the Instrument and the Instructional program according to experts' recommendation.

Minor changes have been performed on few items; such as change demographic data, general information patient's behavior, and patient's knowledge about hypertension.

3.10. The Pilot Study

A pilot study is conducted on 15 patients who attended to AL-Razi Center; they were selected randomly, and this preliminary study was conducted for the period (3rd of December to 24th of December, 2018).The researcher checked the patients' knowledge thorough pre-test and they implemented the program after 20 days and the researcher do it post-test. The result of pilot study has indicated that the questionnaire and instructional study are clear for participant, each interview ranges between (15-20) minutes for each patient, and the items of the questionnaire are clear and applied. To determine the validity and reality of the study instrument, which is used to find the effectiveness of instruction program on hypertensive patient's knowledge toward medication and their adherence before and after program, the sample that was included in the pilot study was excluded from the original sample of the study.

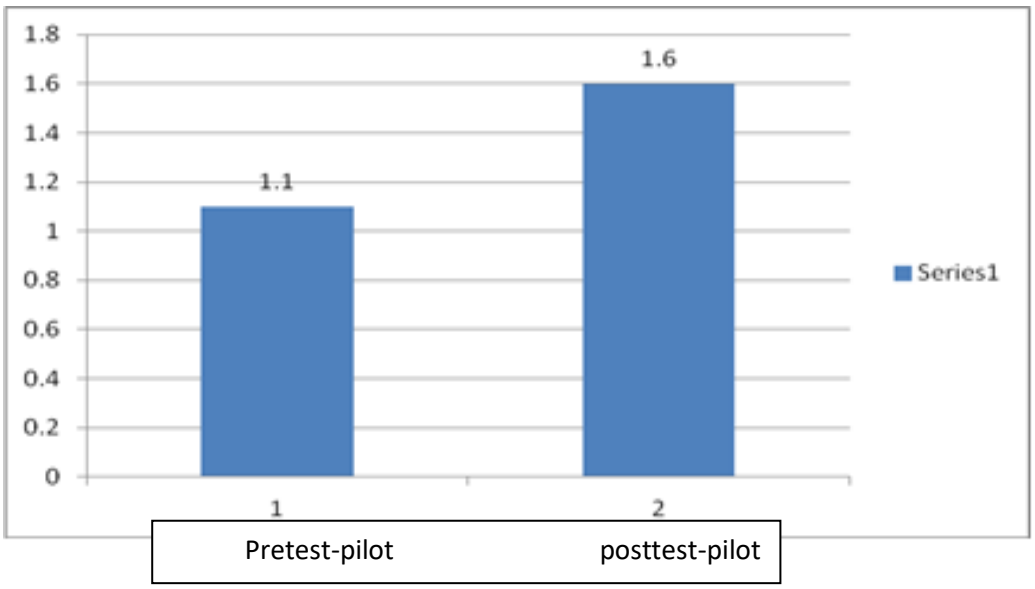


Figure (3-1): Pre and post-test of pilot study for patient's adherence of medication of hypertension

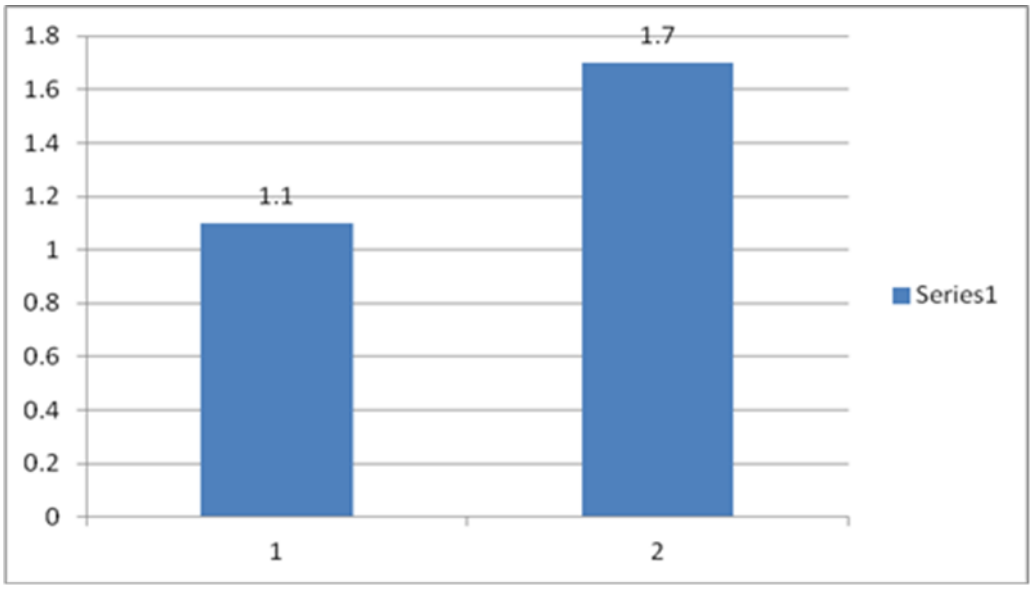


Figure (3-2): Pre and post-test of Patient's Knowledge for Hypertension Medication

Figure (3-1) represents the results of the pilot study which shown patient's adherence toward medication of hypertension (appendix H) which revealed that the instructional program has a positive effect on their adherence for medication.

Figure (3-2) represents the results of the pilot study for patient's knowledge about hypertension medication (appendix G) that had been checked, that shows the instructional program was effective on patients.

3.10.1. The Purpose of the Pilot Study

1. To determine the time required to fill the instrument.
2. To assess the clarity and comprehensiveness of the content of the program's lectures by hypertensive patients.
3. To find out the reliability of the instrument.

3.11. Reliability of the Instrument

The reliability of the research instrument had been evaluated through the SPSS program by applying Cronbach's Alpha for (44) items.

Table (3-3) Reliability of research instrument

Methods of reliability	Criteria of the study	Actual values	No. of Items	Assessment
Cronbach's Alpha	**Patients knowledge**	**0.74**	**44**	**Acceptable**

The results of table (3-3) show that the research instrument is acceptable and sufficient to evaluate the sample according to Cronbach's Alpha value (**0.74**). Therefore, the instrument is reliable to test research phenomenon.

3.12. Statistical Analysis

Statistical programs such as SPSS (Statistical Package for Social Science) version 23 was used to analyze the data.

There were two types of statistical data analysis which were used to obtain the results of the research study as the following:

3.12.1. Descriptive Data Analysis:

3.12.1. **A**. Frequencies, Percentages and Mean of Scores were used in tables in order to get the total results of the sample.

$$\% = \frac{\text{Frequencies}}{\text{Sample size}} \times 100$$

3.12.1. B. Arithmetic Mean ($\bar{X}$)

$$\bar{x} = \frac{\sum xi}{n}$$

3.12.2. Inferential Data Analysis

The purpose of using this type of data analysis was to determine the level of acceptance or rejection of research hypothesis and it includes the following:

3.12.2. a. Pearson correlation coefficient was used to find out the relationship between two variables and to determine the direction as well as the strength of this relationship.

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n(\sum x^2) - (\sum x)^2]\,[n(\sum y^2) - (\sum y)^2]}}$$

3.12.3. Cronbach's Alpha was used to test the reliability of research instrument

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$ Where:

- N - Refer to items number.
- $\bar{c}$ - Refer to average covariance between item-pairs.
- $\bar{v}$ - Refer to average variance.

3.13. Difficulty of the Study:

During the study, there were several difficulties that were faced during conducting the study. One of these difficulties at the beginning, as the Director of the Center and the official of scientific research has rejected the title of the research and not accepting the collection of the sample.

And also the difficulties, include the difficulty of convincing patients to stay for the lecture in pre-test because most patients attended the center for measuring blood pressure and sometimes to write the treatment for them by the doctor so they go to their homes fast after finished and in the post-test and it was difficult to collect samples because most patients do not adhere to the review of the center. Therefore, the researcher had to review most of the patients to their homes after taking their addresses at pre-test.

Chapter Four
Results and Findings

Chapter Four

Results and Findings

Chapter four represents the research problem explained in details through the analysis of its variables' data and organized systematically in tables in form to be compatible with the research objectives

Table (4-1): Distribution of the Study Sample by Socio-demographic Characteristics No=50

Variables	Classification	F.	%
Gender	Males	35	**70.0**
	Females	15	30.0
Age group	28-37 year	5	10.0
	38-47 year	14	28.0
	48 and above	31	**62.0**
	Mean ± SD	**50 ± 8.7**	
Level of Education	Don't Read and Write	13	**26.0**
	Read and write	12	24.0
	Primary school	8	16.0
	Secondary school	12	24.0
	Institute	1	2.0
	college	3	6.0
	Postgraduate	1	2.0
Marital Status	Married	50	100.0
Monthly Income	Sufficient	8	16.0
	Barely sufficient	27	**54.0**
	Insufficient	15	30.0
Residency	Rural	9	18.0
	urban	35	**70.0**
	Suburban	6	12.0
Occupation	Employee	7	14.0
	Free business	14	**28.0**
	Retired	9	18.0
	Housewife	15	**30.0**
	Student	1	2.0
	Don't work	4	8.0

Table 4-1: presents that the high percent (**70%**) of the study sample are males **62%** of them at age group (48 and above) years old, the mean and standard deviation of patients age was**(50±8.7**), **26%** of them not read and

write, all of them was married (**100%**) , **54%** of their monthly income were barely sufficient,**70%** of them living urban area, **28%** of them were free-business, and **30%** of them were housewives.

Table (4-2): Distribution of the Study Sample by Health Behaviors No=50

Variables	Classification	F.	%
Physical activity	do exercise for 30 minutes per day or higher	1	2.0
	do some exercise lower than 30 minutes per day	6	12.0
	can't do exercise	43	**86.0**
Smoking	Still smoking	9	**18.0**
	Stopped	13	26.0
	Never smoking	28	56.0
Alcohol Drinking	Yes	0	0.0
	No	50	100.0
Does your food contain a small amount of salt?	Yes	33	**66.0**
	No	17	34.0
Do you drink water in sufficient quantity at least 3 liters per day?	Yes	25	**50.0**
	No	25	**50.0**

Table (4-2) shows that **86%** of the study sample can't do exercise as a physical activity, **(18%)** of smoking patients at present study was still smoking, all of them **(100%)** do not drink alcohol, **66%** of the study sample eating food with small amount of salt, and half of them **(50%)** drinks' water in sufficient quantity at least 3 liters per day.

Table (4-3): Distribution of the Study Sample by Medical History No=50

No	Variables	Classification	Freq.	%
1	**Duration of medically diagnosis of hypertension?**	1-5 years	23	46.0
		6-11 years	13	26.0
		12-17 years	11	22.0
		18-23 years	1	2.0
		24-29 years	2	4.0
2	**High blood pressure associated with disease**	Diabetic mellitus	16	32.0
		Herat disease	20	**40.0**
		No	14	28.0
3	**Have family history of hypertension**	Yes	36	**72.0**
		No	14	28.0
4	**Frequency of physician's follow up**	No visit	33	**66.0**
		One time every six months	0.0	0.0
		One time every three months	4	8.0
		One time every month	10	20.0
		One or more times every two weeks	3	6.0
5	**How to change treatment**	By self	4	8.0
		Consult a doctor	46	**92.0**
6	**What are the alternative behaviors methods are used to reduce the high blood pressure**	Lemonade	19	**38.0**
		Bananas	5	10.0
		Ginger	5	10.0
		Nothing	21	**42.0**
7	**How long have you been taking treatment?**	1-5 years	27	**54.0**
		6-11 years	12	24.0
		12-17 years	7	14.0
		18-23 years	2	4.0
		24-29 years	2	4.0
8	**Does the medication reduce blood pressure?**	Yes	49	**98.0**
		No	1	2.0
9	**Highest reading of pressure?**	100-120 / 140-180 mm/Hg	38	**76.0**
		125-145/ 185-215mm/Hg	12	24.0
10	**Type of medication used**	capoten	19	**38.0**
		Amlodipine	12	24.0
		Atenolol	4	8.0
		Losartan	5	10.0
		Atacand	4	8.0
		Lisinopril	6	12.0
11	**Body mass index (BMI)**	Underweight = <18.5	0.0	0.0
		Normal weight = 18.5–24.9	21	**42.0**
		Overweight = 25–29.9	20	40.0
		Obesity = BMI of 30 or greater	9	18.0

Table (4-3) represents that **46%** of the study sample was medically diagnosed of hypertension since (1-5) years, most of their high blood pressure was associated with heart's disease which of **40%**, **72%** of the

study sample have a family history of hypertension, according to patients physician's follow up the results represent that **66%** of them did not do follow up, **92%** of the study sample changed the treatment by consulting a doctor, **38%** of them used lemonade as an assistant methods to reduce the high blood pressure, **54%** of them was have medication since (1-5) years, **98%** of the study sample who used medication for decreasing the level of blood pressure was effective on reducing the high level of blood pressure reading ,**76%** of the study sample when reading their blood pressure, it was found to reach (140-180 mm/ Hg) as a systolic and from (100-120 mm/Hg) as diastolic, **38%** of them used capoten to maintain the blood pressure, and **42%** of them were of a normal weight.

Table (4-4): Patients' Adherence for Medication of Hypertension at pretest

No.	Items of adherence	Not Adherence		adherence	
		F	%	F	%
1	Do you forget to take your medication when you are busy	45	90.0	5	10.0
2	Do you forget to take your medication if you are invited to lunch or dinner?	40	80.0	10	20.0
3	Do you forget to take your medication?	45	90.0	5	10.0
4	Do you get late when it comes to buying your medication	33	66.0	17	34.0
5	Do you stop taking your medication if it forbids you from eating certain food that you love because of possible food-medication interaction?	34	68.0	16	32.0
6	Will you stop taking your medication, without your doctor's consultation, if your neighbor/relative took a prescription like yours for a long term and it caused them side effects?	2	4.0	48	96.0
7	Do you stop taking your medication without consulting your doctor if the laboratory tests show improvement during treatment period?	29	58.0	21	42.0
8	Do you stop taking your medication without consulting your doctor if you do not feel better during treatment period?	15	30.0	35	70.0
9	Do you stop taking your medication without consulting your doctor if you feel better during treatment period?	33	66.0	17	34.0
10	Do you decide to stop some of your medications without consulting your doctor if you noticed that you are taking too many medications every day?	1	2.0	48	96.0
11	Do you stop your chronic treatment if you get bored of it?	32	64.0	18	36.0
12	Do you stop taking your medication in case of side effects?	40	80.0	10	20.0
13	Do you stop taking your medication if your insurance does not cover it?	18	36.0	32	64.0
14	Will you stop buying your medication packs if you considered them expensive?	17	34.0	33	66.0
	Total		58.7		41.3

Table (4-4): shows the patients' adherence for medication of hypertension at pre-test for **58.7%** of them had no adherence to medication and **41.3%** of them had adherence to medication.

Table (4-5): Patients' Knowledge toward importance of adherence for medication of Hypertension at pre-test

No.	Patients knowledge	M.	S.D.	Ass.
1	Hypertension is a major cause of gastrointestinal diseases	1.12	0.32	M
2	Primary blood pressure develops over time	1.12	0.32	M
3	High salt content in the body leads to high blood pressure	1.12	0.32	M
4	Blood pressure is more than 130 \ 90 mm / Hg is normal	1.12	0.32	M
5	Adult patients with diabetes are not at risk for high blood pressure	1.14	0.35	M
6	Age and diabetes mellitus are an unchangeable risk factor for hypertension	1.14	0.35	M
7	Reducing weight, organizing meals, exercising, reducing smoking and drinking alcohol are a risk factor for high blood pressure	1.02	0.14	L
8	there is no obvious cause for Primary hypertension	1.02	0.14	L
9	Renal failure is one of the causes of secondary hypertension	1.04	0.19	L
10	Signs of hypertension are headaches, dizziness, nausea and facial redness	1.02	0.14	L
11	Cholesterol, blood, urine analysis and ECG are essential for the diagnosis of hypertension	1.20	0.40	M
12	Lifestyle change is not considered a therapeutic intervention for hypertension	1.02	0.14	L
13	Garlic can damage the liver and cause bleeding in some patients with hypertension	1.02	0.14	L
14	Exercise, relaxation techniques and reduced fatigue play to reducing hypertension	1.02	0.14	L
15	The patient with hypertension should not change the diet to become better	1.02	0.14	L
16	A patient with high blood pressure should reduce fat, salt, sweets,	1.02	0.14	L
17	Stress is an important factor for treating high blood pressure	1.20	0.40	M
18	Behavioral interference, breathing techniques, relaxation and meditation are important tools to reduce fatigue or stress	1.20	0.40	M
19	Use garlic, omega-3 capsules and natural fiber such as wheat bran to treat many health problems including high blood pressure	1.12	0.32	M
20	Atenolol contributes to reducing the pressure on the heart	1.04	0.19	L
21	Atenolol is used to lower blood pressure	1.04	0.19	L
22	Atenolol is given intravenously only	1.20	0.40	M
23	Capoten is given an hour or two after the meal to absorb the entire treatment	1.24	0.43	M
24	Capoten causes headache, cough, insomnia, dizziness, constant fatigue	1.20	0.40	M
25	Amlodipine is used to treat hypotension and diabetes	1.20	0.40	M
26	The frequent side effects of lisinopril are headache, dizziness, orthostatic hypotension	1.06	0.23	L
27	Lisinopril is used to treat stress in adults and children 6 years of age and above and also to treat left ventricular dysfunction following myocardial infarction	1.06	0.23	L
28	One of the contraindications of Losartan is the hypersensitivity to Losartan	1.02	0.14	L
29	Candesartan is initially given to adults 32 mg once a day.	1.20	0.40	M
30	Patients who are adherence to medications are exposed to damage the organs	1.20	0.40	M
	Total	1.1		M

Low= 1; Middle= 1.1- 1.5; High= 1.6-2

The result of table (4-5) revealed that the patient's knowledge toward the importance of adherence for medication of hypertension at pre-test was of a moderate level according to the total mean which is of (1.1%).

Table (4-6): Patients' Adherences for Medication of Hypertension at Post test

No.	Items of adherence	Not Adherence		adherence	
		F	%	F	%
1	Do you forget to take your medication when you are busy	22	44.0	28	56.0
2	Do you forget to take your medication if you are invited to lunch or dinner?	16	32.0	34	68.0
3	Do you forget to take your medication?	24	48.0	26	52.0
4	Do you get late when it comes to buying your medication	5	10.0	45	90.0
5	Do you stop taking your medication if it forbids you from eating certain food that you love because of possible food-medication interaction?	17	34.0	33	66.0
6	Will you stop taking your medication, without your doctor's consultation, if your neighbor/relative took a prescription like yours for a long term and it caused them side effects?	2	4.0	48	96.0
7	Do you stop taking your medication without consulting your doctor if the laboratory tests show improvement during treatment period?	3	6.0	47	94.0
8	Do you stop taking your medication without consulting your doctor if you do not feel better during treatment period?	2	4.0	48	96.0
9	Do you stop taking your medication without consulting your doctor if you feel better during treatment period?	4	8.0	46	92.0
10	Do you decide to stop some of your medications without consulting your doctor if you noticed that you are taking too many medications every day?	4	8.0	46	92.0
11	Do you stop your chronic treatment if you get bored of it?	23	46.0	27	54.0
12	Do you stop taking your medication in case of side effects?	28	56.0	22	44.0
13	Do you stop taking your medication if your insurance does not cover it?	13	26.0	37	74.0
14	Will you stop buying your medication packs if you considered them expensive?	10	20.0	40	80.0
	Total		**24.7**		**75.3**

Table (4-6): represents the patients adherence for medication of hypertension was improved at post instruction program which was 75.3% of them having compliance for medication uses, and the patients who have no compliance was reduced to 24.7%.

Table (4-7): Patients' Knowledge toward importance of patient's adherence for medication of Hypertension at post-test

No.	Patients knowledge	M.	S.D.	Ass.
1	Hypertension is a major cause of gastrointestinal diseases	1.90	0.30	H
2	Primary blood pressure develops over time	1.50	0.50	M
3	High salt content in the body leads to high blood pressure	2.00	0.00	H
4	Blood pressure is more than 130 \ 90 mm / Hg is normal	1.96	0.19	H
5	Adult patients with diabetes are not at risk for high blood pressure	1.94	0.23	H
6	Age and diabetes mellitus are an unchangeable risk factor for hypertension	1.58	0.49	M
7	Reducing weight, organizing meals, exercising, reducing smoking and drinking alcohol are a risk factor for high blood pressure	1.98	0.14	H
8	there is no obvious cause for Primary hypertension	1.30	0.46	M
9	Renal failure is one of the causes of secondary hypertension	1.66	0.47	H
10	Signs of hypertension are headaches, dizziness, nausea and facial redness	2.00	0.00	H
11	Cholesterol, blood, urine analysis and ECG are essential for the diagnosis of hypertension	1.92	0.27	H
12	Lifestyle change is not considered a therapeutic intervention for hypertension	1.90	0.30	H
13	Garlic can damage the liver and cause bleeding in some patients with hypertension	1.86	0.35	H
14	Exercise, relaxation techniques and reduced fatigue play in reducing hypertension	2.00	0.00	H
15	The patient with hypertension should not change the diet to become better	1.98	0.14	H
16	A patient with high blood pressure should reduce fat, salt, sweets, and red meat	2.00	0.00	H
17	Stress is an important factor for treating high blood pressure	1.94	0.23	H
18	Breathing techniques, relaxation and meditation are important t to reduce fatigue or stress	1.68	0.47	H
19	Use garlic, omega-3 capsules and natural fiber such as wheat bran to treat many health problems including high blood pressure	1.68	0.47	H
20	Atenolol contributes to reducing the pressure on the heart	1.06	0.23	L
21	Atenolol is used to lower blood pressure	1.08	0.27	L
22	Atenolol is given intravenously only	1.94	0.23	H
23	Capoten is given an hour or two after the meal to absorb the entire treatment	1.36	0.48	M
24	Capoten causes headache, cough, insomnia, dizziness, constant fatigue	1.94	0.23	H
25	Amlodipine is used to treat hypotension and diabetes	1.98	0.14	H
26	The frequent side effects of lisinopril are headache, dizziness, orthostatic hypotension	1.18	0.38	M
27	Lisinopril is used to treat stress in adults and children 6 years of age and above and also to treat left ventricular dysfunction following myocardial infarction	1.10	0.30	M
28	One of the contraindications of Losartan is the hypersensitivity to Losartan	1.14	0.35	M
29	Candesartan is initially given to adults 32 mg once a day.	1.98	0.14	H
30	Patients who are adherence to medications are exposed to damage the key organs such as kidneys or hear	1.98	0.14	H
	Total means	**1.71**		**H**

Low= 1; Middle= 1.1- 1.5; High= 1.6-2

Table (4-7): shows the patient's knowledge toward the importance of patient's adherence for medication of hypertension at post-test improved their knowledge according to the total mean of their responses toward the items of the instructional program which is of (1.71) (high level).

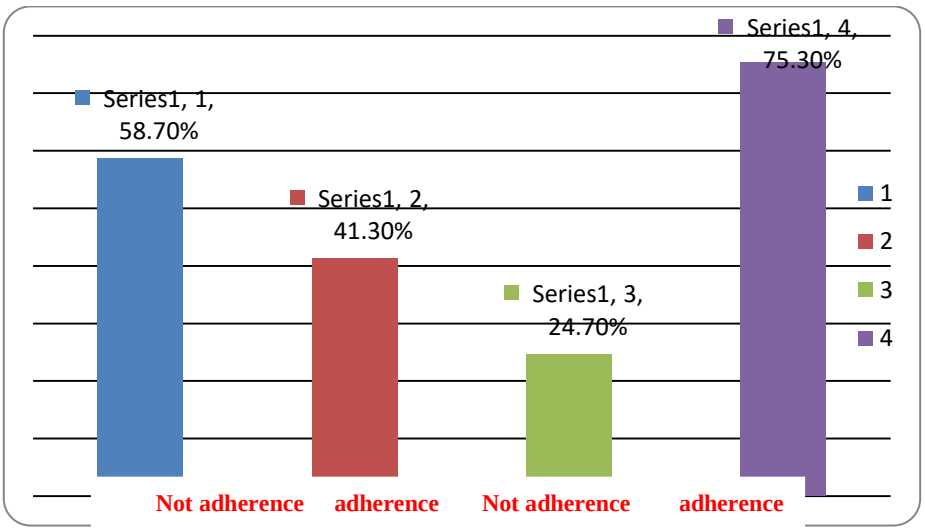


Figure (4-1): Pre and Post patients Adherance for Medication of Hypertension

Figure 4-1: shows the improvement of patient's adherence for medication of hypertension between pre and post instruction program

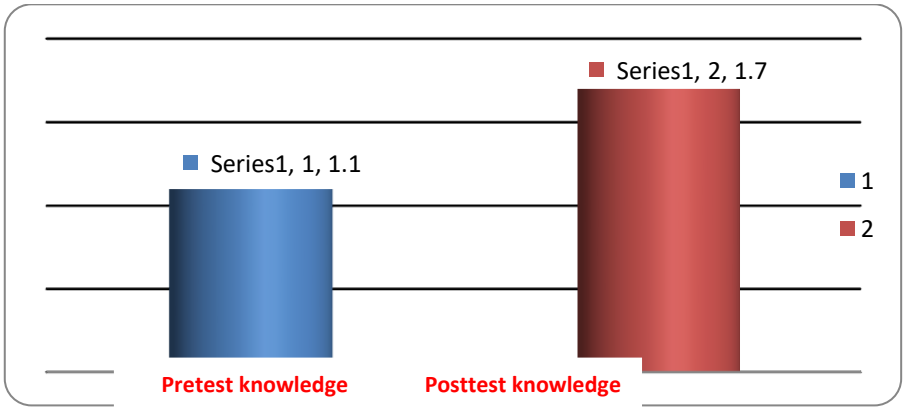


Figure (4-2): Pre and Post patients knowledge toward imporatnt of adherance for Hypertension Medication

Figure 4-2: shows improvement of patient's knowledge toward importance of adherence for medication of hypertension between pre and post instructional program.

Table (4-8): Relationship between the Patients Adherence after Instruction Program and their age, level of education, income, and Residency

Variables		Patients adherence	Age group	Level of education	Income	Residency
Patients adherence	Pearson Correlation	1	.048	.130	-.255	.395**
	Sig. (2-tailed)		.742	.369	.074	.005 H.S.
	N	50	50	50	50	50
Age group	Pearson Correlation	.048	1	-.313*	-.100	.085
	Sig. (2-tailed)	.742		.027 S.	.489	.555
	N	50	50	50	50	50
Level of education	Pearson Correlation	.130	-.313*	1	-.385**	.079
	Sig. (2-tailed)	.369	.027		.006	.585
	N	50	50	50	50	50
Income	Pearson Correlation	-.255	-.100	-.385**	1	-.258
	Sig. (2-tailed)	.074	.489	.006 H.S.		.071
	N	50	50	50	50	50
Residency	Pearson Correlation	.395** H.S	.085	.079	-.258	1
	Sig. (2-tailed)	.005	.555	.585	.071	
	N	50	50	50	50	50

Table (4-8) presented that there were highly significant relationship between patient's adherence after instructional program and their residency, and there were no significant relationship between patient's adherence and their level of education, age, and income at $p \leq 0.01$ level.

Table 4-9: Relationship between Patients Adherence and duration of hypertension, other disease, family history, follow up, and type of their drug

Variables		Patients adherence	Duration of hypertension	Other disease	Family history	Follow up	Type of drug
Patients adherence	Pearson Correlation	1	-.010	-.023	.134	.245	.192
	Sig. (2-tailed)		.943	.875	.354	.086	.181
	N	50	50	50	50	50	50
Duration of hypertension	Pearson Correlation	-.010	1	**-.350***	-.132	-.135	-.011
	Sig. (2-tailed)	.943		**.013 H.S.**	.361	.351	.941
	N	50	50	**50**	50	50	50
Other disease	Pearson Correlation	-.023	-.350*	1	.082	.056	-.024
	Sig. (2-tailed)	.875	.013		.573	.700	.866
	N	50	50	50	50	50	50
Family history	Pearson Correlation	.134	-.132	.082	1	.067	-.207
	Sig. (2-tailed)	.354	.361	.573		.646	.149
	N	50	50	50	50	50	50
Follow up	Pearson Correlation	.245	-.135	.056	.067	1	.048
	Sig. (2-tailed)	.086	.351	.700	.646		.739
	N	50	50	50	50	50	50
Type of drug	Pearson Correlation	.192	-.011	-.024	-.207	.048	1
	Sig. (2-tailed)	.181	.941	.866	.149	.739	
	N	50	50	50	50	50	50

Table (4-9) presented that there were no significant relationship between patient's adherence and duration of hypertension, other disease, family history, follow up, and type of their drug at $p \leq 0.01$ level, while there were significant relationship between duration of hypertension and other disease at $p \leq 0.01$ level

Table 4-10: Relationship between the effectiveness of instruction Program and Patients level of education, residency, duration of hypertension, family history, and follow up

Variables'		Patents knowledge	Level of education	residency	Duration of hypertension	Family history	Follow up
Patients Knowledge	Pearson Correlation	1	.644**	.068	.057	-.041	.109
	Sig. (2-tailed)		**.000 H.S.**	.641	.693	.777	.453
	N	50	50	50	50	50	50
Level of education	Pearson Correlation	**.644****	1	.079	.065	-.112	-.103
	Sig. (2-tailed)	**.000**		.585	.656	.437	.474
	N	**50**	50	50	50	50	50
Residency	Pearson Correlation	.068	.079	1	-.041	.069	.156
	Sig. (2-tailed)	.641	.585		.779	.635	.278
	N	50	50	50	50	50	50
Duration of hypertension	Pearson Correlation	.057	.065	-.041	1	-.132	-.135
	Sig. (2-tailed)	.693	.656	.779		.361	.351
	N	50	50	50	50	50	50
Family history	Pearson Correlation	-.041	-.112	.069	-.132	1	.067
	Sig. (2-tailed)	.777	.437	.635	.361		.646
	N	50	50	50	50	50	50
Follow up	Pearson Correlation	.109	-.103	.156	-.135	.067	1
	Sig. (2-tailed)	.453	.474	.278	.351	.646	
	N	50	50	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).

Table (4-10) presented that there were highly significant relationship between the effectiveness of instruction program and patients level of education, and there were no significant relationship between effectiveness of instruction program and their patient's residency, duration of hypertension, family history, and follow up at $p \leq 0.01$ level.

Chapter Five

Discussion of the Study Results

Chapter Five

Discussion of the Study Results

Chapter five presents an organized discussion which interprets the results that are presented in chapter four in a systematical manner and it is supported by other studies related to the research study.

5.1. Discussion of Socio-Demographic Characteristics of this study (table 4-1)

The Socio-Demographic of sample in the present study was (70%) of them were males, **Mekonnen, et al., (2017)** stated in a cross sectional study to assess the drug adherence among 409 participants from three referral hospitals in Northwest Ethiopia were 57.7% of participants were males. The researcher believes that male in our country have strong duties and have smoking more female, so may be more tendency for hypertension.

High percent of the study sample which is included in the present study was (62%) of them at age group (48 and above) years, **Teshome, et al., (2017)** show in their study which was conducted to assess the adherence to antihypertensive medications among 346 participants in northwest Ethiopia were 47.8% at age (41-60) years.

The level of education included in the present study was (26%) who don't read and write, **Mekonnen , et al.,(2017)** stated in a cross sectional study to assess the drug adherence among 409 participants from three referral hospitals in Northwest Ethiopia presented that (36.7%) were unable to read and write.

According to the marital status, all of the samples in the present study were married (100%). **Boratas and Kilic, (2018)** evaluated 147 hypertensive patients who were admitted to Akdogan Health Center to

medication adherence in hypertensive patients and to identify the influential factors that major of patients (83.7%) in this study were married and (16.3%) were unmarried. The researcher believes that the stress of family life and big responsibilities on persons may lead to an increase to the incidence of hypertension among married persons.

The monthly income of the present sample in the present study is barely sufficient (54%), **Tan, et al., (2017)** stated in their study on 73 hypertensive patients to assess the efficacy of intervention program to improve medication adherence in Malaysia, this study shows monthly income which was low and present (56.10%) from their study.

High percent of the sample live in the urban area which was of (70%). **Saleem, et al., (2013)** show in their study that (75.1%) lived in urban area. The researcher believes that the high percent are urban person so the nearest to medical center was easy to follow up.

Present study shows that (28%) of them were free-business men and (30%) of them were housewives. **Pan , et al., (2017)** involve in their study 440 Chinese hypertensive stroke patients which was conducted in a tertiary hospital in Xi'an, China to assess the knowledge of hypertension and investigate risk factors associated with medication of adherence , showed that (66.36%) of patients were retired.

5.2. Discussion of Health Behaviors of the Study Sample (table 4-2)

According to the physical activity, the results revealed that (86%) can't do exercise, **Serhal, et al., (2018)** conducted a study that including 405 patients, was performed in outpatient cardiology clinics of three hospitals in Beirut, it showed that (71.1%) of patients do not have any physical activity.

Although the smoking is unhealthy behavior and contribute to high blood pressure, there were 18% from the study sample are still smoking. **Serhal, et al., (2018)** stated in their study that the lowest percentage stopped smoke and represents (19.3%) and (31.6%) are still smoking.

The results of the present study revealed that all of the hypertensive patients (100%) are not alcoholic, **Pirasath, Kumanan , and Guruparan., (2017)** made a study which had been carried out the Teaching Hospital Jaffna northern Sri Lanka to assess the patient's knowledge and awareness about hypertension and adherence to antihypertensive medication , they presented that (78.5%) of their sample were nondrinkers.

Other patients' behavior in the present study indicates that their food contains a small amount of salt which is of 66%. **Serhal, et al., (2018)** stated in their study that (63.4) have low sodium diet.

5.3. Discussion of the Medical History of Hypertensive Patients of Study Sample (Table 4-3)

In the present study, the researcher included all the sample which was diagnosed medically as hypertensive patient high percent of them (46%) was diagnosed from (1-5) years, **Boratas and Kilic**, **(2018)** stated in their study that they founded that (38.1%) of them was diagnosed from (2-6) years ago.

High percent of participants in the present study have hypertension associated with heart diseases which of (40%). **Zhang, et al., (2018)** stated in their study which was conducted on 1,916 community-managed patients with hypertension in a survey on China hypertensive patients, they founded that (53%) of participants have heart diseases (53.1%).

The family history is main medical history on 72% of patients who participated in the present study. **Choi, et al., (2017)** found in their study which was conducted on 1,523 Korean patients with hypertension to determine demographic and clinical factors associated with adherence to antihypertensive medication that (59.7%) of the participants in their study had family history of hypertension.

One of the main complications of hypertension on patient result from not making follow up, the present study explores that (66%) of them not follow up. **Boratas and Kilic, (2018)** made a study on 147 hypertensive patients who were admitted to Akdogan Health Center to evaluate medication adherence in hypertensive patients and to identify the influential factors that affected their follow-up, they presented that (70.7%) of them was visiting the center once monthly.

The alternative practices methods are used to reduce the high blood pressure in the present study were (38%) of them used Lemonade to reduce high blood pressure**,** while (42%) did not use anything. **Bhandari**, **et al., (2015)** explained in their study that they included 975 hypertensive patients in the Eastern Region of Nepal to evaluate the level of adherence towards prescribed antihypertensive treatment and to identify the factors of non-adherence that (25.9%) uses alternative methods to reduce high blood pressure.

Highest reading for blood pressure in the present study sample reached to 140/180 mm/Hg as a systolic and 100/120 mm/Hg as a diastolic pressure. **Polańska, et al., (2016)** made a study to evaluate medication of adherence among elderly hypertensive patients and to assess whether other factors influence adherence in this group of patients they founded that (53.4%) of them had Grade I hypertension according to the classification of blood pressure level (systolic blood pressure range between 140-159 mm/hg

and diastolic blood pressure range between 90-99 mm/hg) according to European Society of Cardiology.

High percent (38%) of study sample used capotin as a treatment for hypertension. **Polańska, et al., (2016)** stated that (44.6) used angiotensin-converting enzyme inhibitors (capotien) to treat hypertension. The researcher believes that the patients used capotien because it is more effective to reduce blood pressure, less side effect, it is founded in the pharmacies and in suitable cost.

The measuring of Body mass index for participants in present study was of normal weight (18.5-24.9) which represents (42%). **Pirasath**, **et al., (2017)** stated a comparative study which was carried out at Teaching Hospital Jaffna, to assess the patient's knowledge and awareness about hypertension and adherence to antihypertensive medication among hypertensive patients in a tertiary care center of northern Sri Lanka that the body mass index of their patients who participated in their study were (64%) of them overweight.

5.4. Discussion of the Patients' Adherence for Medication of Hypertension at Pre and Post-test (Tables 4-4, 4-6) (Figure 4-1)

The findings of the present study revealed that the patients' adherence for medication of hypertension at pre-test which has rate (58.7%) of them had no adherence and (41.3%) of them had adherence to medication, while the patients' adherence for medication of hypertension was improved at post instructional program which 75.3% of them was compliance for medication uses, and the patients who had no compliance was reduced to 24.7%.The researcher believes that the patients' compliance as a result of improving their knowledge toward the risk of not having adherence for medication after exploring them on instructional program. **Teshome, et al.,(2017)** made a cross-sectional study which was conducted on 346

participants to assess the adherence to antihypertensive medications at Debre Tabor General Hospital, northwest Ethiopia, they concluded that (75.1%) of the participants were found to be adherent to their medication therapy.

5.5. Discussion of the Patients' Knowledge toward the Importance of Adherence for medication of Hypertension at Pre and post-test (Tables 4-5.4-7) (Figure 4-2)

The results of the present study revealed that the patient's knowledge toward importance of adherence for medication of hypertension at pre-test was of moderate level for total mean which is of (1.1%) and at a post-test improved to high level for total mean which of (1.71) **Pirasath**, et al**., (2017)** conducted comparative study which was carried out in Teaching Hospital Jaffna, to assess the patient's knowledge and awareness about hypertension and adherence to antihypertensive medication among hypertensive patients northern Sri Lanka that 69.9% of patients from 303 patients had adequate knowledge about hypertension. The researcher believes that the instructional program had good effect on their knowledge and was effective.

5.6. Discussion of the Relationship between the Patients' Adherence after the Instructional Program and their Age, Level of education, Income, and Residency (Table.4-8)

The study findings revealed that there was highly significant relationship between the patient's adherence after the instructional program and their residency, and there was no significant relationship between the patient's adherence and their level of education, age, and income at $p \leq 0.01$ level. The researcher believes that the people living in urban area are more

informal and more communicable with media**. Saleem, et al., (2013)** evaluated 192 control group and 193 interventional group to find out the better understanding about hypertension , increase medication adherence to antihypertensive therapy among patients who participated in their study, they concluded that there was no significant difference observed in either group of age, gender, income, locality, education, occupation or duration of disease .

5.7. Discussion of the Relationship between Patients' Adherence and Duration of Hypertension, Other Disease, Family History, Follow up, and Type of their Drug (Table, 4-9)

The findings of the present study showed that there was no significant relationship between the patient's adherence and duration of hypertension, other disease, family history, follow up, and type of their drug at $p \leq 0.01$ level, while there was significant relationship between the duration of hypertension and other disease at $p \leq 0.01$ level. **Demisew, Mahmud, and kechalew , (2018)** stated in a cross-sectional study which was conducted in Debre Berhan Referral Hospital, Ethiopia on 271 hypertensive patients to assess the level of adherence to antihypertensive treatment and associated factors among hypertensive patient, they concluded that there was strong significance between adherence to medication and duration of hypertension ,follow up , family history, and other disease. While **Guiradoa, et al., (2010)** conducted a study in Barcelona, Spain on 996 hypertensive patients to evaluate the efficacy of the educational program for the patients with hypertension, they concluded that the educational intervention had no significant impact on the patients' adherence to the medication.

5.8. Discussion of the Relationship between The effectiveness of the instructional Program and Patients' Level of Education,

Residency, Duration of Hypertension, Family History, and Follow up (Table 4-10)

The results of the study indicate that there was highly significant relationship between the effectiveness of instruction program and patients' level of education, and there was no significant relationship between the effectiveness of the instructional program and their patient's residency, duration of hypertension, family history, and follow up at $p \leq 0.01$ level. **Saleem, et al., (2013)** presented in their study that there was a significant increase in the participants' levels of knowledge about hypertension and medication adherence among the interventional group after completing the intervention.

Chapter Six

Conclusions and Recommendations

Chapter Six

Conclusions and Recommendations

According to the results of the present study, the conclusions and recommendations are written as the following:

6.1. Conclusions

6.1.1. The instructional program has positive effect on patients' adherence through their improvement of their compliance between pre and post instructional program.

6.1.2. There were significant effectiveness of instructional program on patients' knowledge comparing between pre and post-test.

6.1.3. Patients in the study demonstrated significant changes in their adherence for medication scores when the pre and the post adherence score , adherence was changed from non- adherence level at the percentage (58.7%) in pre-test to high level of adherence (75.3%) in the post-test

6.1.4. There were highly significant relationships between patient's adherence after the instructional program and their residency and there was no significant relationship between patients' adherence and their level of education, age, and income at $p \leq 0.01$ level.

6.1.5. There was no significant relationship between the patients' adherence and duration of hypertension, other disease, family history, follow up, and type of their drug at $p \leq 0.01$ level, while there was significant relationship between duration of hypertension and other disease at $p \leq 0.01$ level.

6.1.6. There were highly significant relationships between the effectiveness of the instructional program and the patients' level of education, and there was

no significant relationship between effectiveness of the instructional program and their patients' residency, duration of hypertension, family history, and follow up at $p \leq 0.01$ level.

6.2. Recommendations

At the end of the present study, the researcher recommends the following:

6.2.1. Health care providers should reinforce their activities to help to improve patients' knowledge level, through focusing on identifying risk factors to hypertension, regular medication intake, good nutrition, physical activity, and changing and informing lifestyles of patients with hypertension.

6.2.2. Conducting farther studies on large sample, and importance of follow up regarding improvement of knowledge and medication adherence of hypertensive patients in order to increase the knowledge and medication of adherence among patients over the years.

6.2.3. Establishing specific department in each treating center of hypertension to provide the patients with the information about the importance of compliance and follow up when patients need to change their drugs.

6.2.4. Increasing means of media to improve the community member knowledge about the risk factors of hypertension in increasing the awareness among people to reduce the incidence of hypertension.

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Appendices

Appendix (A)

Ministry of Higher Education & Scientific Research
University of Baghdad
College of Nursing
Registrar Office
Ref:
Date:

بسم الله الرحمن الرحيم
جمهورية العراق

وزارة التعليم العالي
والبحث العلمي
جامعة بغداد
كلية التمريض
الدراسات العليا
العدد: ٩٣٤١
التاريخ: ١٤/١١/٢٠١٨

الى / وزارة التخطيط / الجهاز المركزي للاحصاء وتكنلوجيا المعلومات
م/ تسهيل مهمة

تحية طيبة ...

يرجى التفضل بالموافقة على تسهيل مهمة طالب الماجستير **(احمد ثامر سعود)** لغرض حصوله على الاحصائيات المتعلقة ببحثه الموسوم (فاعلية البرنامج الارشادي المتعلق بالالتزام بالعلاج في معارف مرضى فرط ضغط الدم في مركز الرازي في محافظة البصرة).

مع التقدير...

أ.د. هدى باقر حسن
معاون العميد للشؤون العلمية والدراسات العليا

نسخة منه إلى//
التسجيل / الدراسات العليا
الصادرة

College of nursing/University of Baghdad Bab Al Mua'adham-Baghdad-Iraq
P.O. Box: (14149)
E. Mail: nursing@conursing.uobaghdad.edu.iq
www.conursing .uobaghdad.edu.iq
كلية التمريض/جامعة بغداد
العراق-بغداد- باب المعظّم
ص.ب: (١٤١٤٩)

Appendix (B)

REPUBLIC OF IRAQ
MINISTRY OF PLANNING
CENTRAL STATISTICAL
ORGANIZATION

جمهورية العراق
وزارة التخطيط
الجهاز المركزي للإحصاء

العدد: ١٥٩٥٩/٨/١/٢/١
التاريخ: ٢٠١٨/١٢/٢

الدائرة: الإدارية والمالية
المديرية: النشر والعلاقات

الى / جامعةبغداد / كلية التمريض
م / تسهيل مهمة

تحية طيبة...

أشارة الى كتابكم المرقم 9348 بتاريخ 2018/11/12

تمت الموافقة على اجراء الاستبيان المقدم من طالب الماجستير (احمد ثامر سعود) والمتعلق ببحثه الموسوم (فاعلية البرنامج الارشادي المتعلق بالالتزام بالعلاج في معارف المرضى فرط ضغط الدم في مركزالرازي في محافظة البصرة) .

للتفضل بالاطلاع واتخاذ مايلزم بضوء ذلك على ان تؤخذالملاحظات الموجودة في متن الاستبانة.

مع التقدير ....

المرفقات:-

-الاستبانة .

د. ضياء عواد كاظم
رئيس الجهاز المركزي للاحصاء
2018/12/3

Appendix (C)

وزارة التعليم العالي
والبحث العلمي
جامعة بغداد
كلية التمريض
الدراسات العليا
العدد:
التاريخ:

بسم الله الرحمن الرحيم
جمهورية العراق

Ministry of Higher
Education &
Scientific Research
University of Baghdad
College of Nursing
Registrar Office
Ref:
Date:

الى / دائرة صحة البصرة / مركز الرازي
م/ تسهيل مهمة

تحية طيبة ...

يرجى التفضل بالموافقة على تسهيل مهمة طالب الماجستير (احمد ثامر سعود) لغرض حصوله على المعلومات المتعلقة ببحثه الموسوم (فاعلية البرنامج الارشادي المتعلق بالالتزام بالعلاج في معارف مرضى فرط ضغط الدم في مركز الرازي في محافظة البصرة).

مع التقدير...

أ.د. هدى باقر حسن
معاون العميد للشؤون العلمية
والدراسات العليا

نسخة منه إلى//
التسجيل / الدراسات العليا
الصادرة

كلية التمريض/جامعة بغداد
العراق-بغداد- باب المعظم
ص.ب: (١٤١٤٩)

E. Mail:
nursing@conursing.uobaghdad.edu.iq
www.conursing .uobaghdad.edu.iq

College of nursing/University of
Baghdad Bab Al Mua'adham-
Baghdad-Iraq
P.O. Box: (14149)

Appendix (D)

جمهورية العراق
وزارة الصحة
دائرة صحة البصرة
مكتب المدير العام
مركز التدريب والتنمية البشرية
وحـــدة البحـــوث والمعرفة

العدد : ٨
التاريخ : ٢٠١٩/١/٧

الى / مركز الرازي التدريبي

م/ تسهيل مهمة

عقدت لجنة دراسة البحوث المركزية اجتماعها يوم الاحد ٢٠١٨/١٢/٢٣ وذلك لدراسة البحث الموسوم (فاعلية البرنامج التعليمي المتعلق بالالتزام بالعلاج على معارف مرضى فرط ضغط الدم في مركز الرازي في محافظة البصرة) المقدم من قبل الباحث (احمد ثامر سعود) طالب ماجستير – كلية التمريض – جامعة بغداد وقد تمت الموافقة عليه على ان يتحمل الباحث تكاليف المصروفات والمستلزمات كافة لإجراء بحثه.

مـع التقديـــر.

ع/المدير العام
د. رجاء احمد محمود
مديرة مركز التدريب والتنمية البشرية
٢٠١٩/١/٧

نسخة منه :
- مركز التدريب و التنمية البشرية / وحدة البحوث / مع الاوليات .

ثناء

Appendix (E)

استمارة لتقييم احتياجات مرضى فرط ضغط الدم للبرنامج الارشادي

اختي / اخي المريض

الاستمارة الحالية هي لدراسة طالب الماجستير (احمد ثامر سعود) والمتعلقة (بفاعلية البرنامج الارشادي المتعلق بمعارف والتزام المريض المصاب بفرط ضغط الدم)

ارجوا التفضل بملئ الحقول ادناه .... مع جزيل الشكر.

1. الجنس

ذكر ◯ انثى ◯

2- العمر: .....

3- المستوى التعليمي.....

4-التدخين؟

لازلت ادخن ☐ توقفت عن التدخين ☐ لا ادخن ابدا ☐

5-هل يحتوي طعامك على نسبه قليله من الملح

نعم ☐ لا ☐

6-منذ متى وانت مشخص طبيا بارتفاع ضغط الدم؟

7-نوع العلاج المستخدم.....

معارف المرضى حول ارتفاع ضغط الدم واهم العلاجات واستخدامها وطرق الاعطاء والبدائل المساعدة في خفض ضغط الدم

ت	تعرف ان	اعرف	لااعرف	غير متأكد
1	ارتفاع ضغط الدم سبب رئيسي لامراض الجهاز الهضمي			
2	ضغط الدم الاساسي يتطور مع مرور الزمن			
3	ارتفاع نسبه الملح في الجسم تؤدي الى ارتفاع ضغط الدم			
4	ضغط الدم اكثر من 130\90 ملم\زئبق يعتبر طبيعي			
5	علاج الاتينولول يستخدم لخفض ضغط الدم			
6	العمر ومرض داء السكري من عوامل الخطورة غير القابله للتغيير لمرض فرط ضغط الدم			
7	تقليل الوزن وتنظيم وجبات الطعام وممارسة النشاط الرياضي وتقليل التدخين وشرب الكحول من عوامل الخطورة القابله للتغيير لمرض فرط ضغط الدم			
8	لايوجد سبب واضح للاصابة بفرط ضغط الدم الاولى			
9	الفشل الكلوي او خلل في الشريان الابهر من اسباب ارتفاع ضغط الدم الثانوي			
10	الكابوتين يعطى قبل ساعه او ساعتين بعد الطعام ليمتص العلاج بأكمله			

مقياس التزام المريض بالعلاج

ت	الاسئلة	نعم	لا
1	نسيت ان تاخذ علاجك لانك مشغول(بعمل شاق او مسافر)		
2	نسيت ان تاخذ علاجك عند دعوتك لوجة غداء او عشاء		
3	نسيت ان تاخذ علاجك		
4	تاخرت في شراء العلاج عندما يستنفذ لديك		
5	تتوقف عن اخذ علاجك اذا لم يسمح لك بتناول الطعام الذي تحبه بسبب التداخل المحتمل بين العلاج والطعام		
6	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا كان اقاربك لديهم نفس الوصفة لعلاجك ويستخدمه لفترة طويله وسبب له بعض الاعراض الجانبية		
7	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا اظهرت الفحوصات المختبريه تحسن		

	لديك اثناء فترة العلاج		
8	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا شعرت بانك لم تتحسن اثناء فترة العلاج		
9	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا شعرت بانك تحسنت اثناء فترة العلاج		
10	تتوقف عن اخذ بعض العلاجات بدون استشارة طبيب اذا شعرت انك تستخدم كميات كبيرة من العلاجات يوميا		
11	تتوقف عن علاجك المستمر اذا اصابك الملل منه		
12	تتوقف عن اخذ العلاج في حالة ظهرت عليك الاعراض الجانبية		
13	تتوقف عن اخذ العلاج اذا كان تامينك المادي لايكفي لتغطية العلاج		
14	تتوقف عن شراء علاجك اذا احسست انه مكلف ماديا		

Appendix (F)

استمارة الاستبيان

اختي / اخي المريض

الاستمارة الحالية هي لدراسة طالب الماجستير (احمد ثامر سعود) والمتعلقة (بفاعلية البرنامج الارشادي المتعلق بمعارف والتزام المريض المصاب بفرط ضغط الدم)

ارجوا التفضل بملئ الحقول ادناه .... مع جزيل الشكر.

المحور الاول:المعلومات الديموغرافية لمرضى فرط ضغط الدم

1-الجنس

ذكر ◯ انثى ◯

2- **العمر**: ----------

1- 18- 27 سنة ☐

2- 28 - 37 سنة ☐

3- 38- 47 سنة ☐

4- 48 فما فوق ☐

3- **المستوى التعليمي**:

لايقراء ولايكتب ☐

يقرأ ويكتب ☐ ابتدائية ☐

ثانوية ☐ معهد ☐

كلية ☐ دراسات عليا ☐

4-الحالة الاجتماعية:

اعزب ☐ مطلق ☐ منفصل ☐

متزوج ☐ ارمل ☐

5- الدخل الشهري:

يكفي ☐ يكفي نوعا ما ☐

لايكفي ☐

6-البيئة:

ريف ☐ حضر ☐ اطراف المدينة ☐

7- المهنة:

موظف حكومي ☐ اعمال حرة ☐ متقاعد ☐ ربة بيت ☐

طالب ☐ لايعمل ☐

المحور الثاني:محور خاص بسلوكيات المريض

1-ممارسة النشاطات الرياضية:

امارس التمارين الرياضية لمدة 30 دقيقة باليوم او اكثر ☐

امارس بعض التمارين الرياضية لأقل من 30 دقيقة باليوم ☐

لاامارس اي من التمارين الرياضية ☐

2-التدخين:

لازلت ادخن ☐ توقفت عن التدخين ☐ لا ادخن ابدا ☐

3-هل تشرب الكحول :

نعم ☐ لا ☐

4-هل يحتوي طعامك على نسبه قليله من الملح

نعم ☐ لا ☐

5-هل تشرب الماء بكمية كافية لاتقل عن 3 لتر\اليوم

نعم ☐ لا ☐

المحور الثالث: التاريخ الطبي للمريض:

1-منذ متى وانت مشخص طبيا بارتفاع ضغط الدم؟

2-الاصابة بارتفاع ضغط الدم متزامنه مع مرض:

السكر ☐ امراض القلب ☐ الغدة الدرقية ☐ غيرها ☐

3-يوجد شخص في العائلة مصاب بفرط ضغط الدم:

نعم ☐ لا ☐

4-عدد مرات مراجعتك للطبيب بخصوص ارتفاع ضغط الدم:

لاتوجد مراجعة مستمرة ☐ مرة واحده كل ست اشهر ☐

مرة واحده كل ثلاث اشهر ☐ مرة واحدة في الشهر ☐

مره واحدة او اكثر كل اسبوعين ☐

5- تقوم بتغيير العلاج بنفسك ام باستشارة طبيب؟

6-ماهي الامور الاضافية التي تستعملها لتقليل فرط ضغط الدم؟

7-منذ متى تاخذ العلاج؟

8- هل العلاج يخفض نسبة الضغط الدموي ؟ نعم لا

9-ماهو اعلى مستوى يصل اليه ضغطك؟_____ملم\زئبق

10-نوع العلاج المستخدم

11-هل تاخذ العلاج بصورة منتظمة نعم ☐ لا ☐

12-قياس كتلة الجسم BMI .....

المحور الرابع: معارف المرضى حول ارتفاع ضغط الدم واهم العلاجات واستخدامها وطرق الاعطاء والبدائل المساعدة في خفض ضغط الدم

ت	تعرف ان	اعرف	لااعرف	غير متأكد
1	ارتفاع ضغط الدم سبب رئيسي لامراض الجهاز الهضمي			
2	ضغط الدم الاساسي يتطور مع مرور الزمن			
3	ارتفاع نسبه الملح في الجسم تؤدي الى ارتفاع ضغط الدم			
4	ضغط الدم اكثر من 130\90 ملم\زئبق يعتبر طبيعي			
5	المرضى البالغين الذين يعانون من مرض السكري يكونون غير معرضين لخطر الاصابة بارتفاع ضغط الدم			
6	العمر ومرض داء السكري من عوامل الخطورة غير القابله للتغيير لمرض فرط ضغط الدم			
7	تقليل الوزن وتنظيم وجبات الطعام وممارسة النشاط الرياضي وتقليل التدخين وشرب الكحول من عوامل الخطورة القابله للتغيير لمرض فرط ضغط الدم			
8	لايوجد سبب واضح للاصابة بفرط ضغط الدم الاولى			
9	الفشل الكلوي او خلل في الشريان الابهر من اسباب ارتفاع ضغط الدم الثانوي			
10	من علامات فرط ضغط الدم هي الصداع والدوخه والغثيان واحمرار الوجه			
11	تحليل نسبه الكوليسترول وتحليل الادرار والدم وتخطيط القلب ضرورية لتشخيص مرض فرط ضغط الدم			
12	تغيير انماط الحياة لايعتبر نوع من التداخلات العلاجيه لمرض فرط ضغط الدم			
13	الثوم يمكن أن يتلف الكبد ويسبب النزيف في بعض مرضى فرط ضغط الدم			
14	التمارين الرياضيه وتقنيات الاسترخاء وازالة التعب تلعب دور مهم في تقليل فرط ضغط الدم			
15	لا يجوز للمريض المصاب بفرط ضغط الدم بتغيير النظام الغذائيه ليصبح افضل			
16	على المريض المصاب بفرط ضغط الدم ان يقلل نسبة الدهون والملح والحلويات والمشروبات السكرية واللحوم الحمراء			
17	يعتبر الإجهاد عامل مهم لعلاج ارتفاع ضغط الدم			

18	يعتبر التداخل السلوكي وتقنيات التنفس والاسترخاء والتأمل من الوسائل المهمه لتقليل التعب او الاجهاد			
19	استخدم الثوم وكبسولات الاوميجا 3 والالياف الطبيعيه مثل نخالة القمح لعلاج كثير من المشاكل الصحية ومنها ارتفاع ضغط الدم			
20	يساهم علاج الاتينولول في تخفيف الحمل على القلب وتوسيع الاوعية الدموية			
21	علاج الاتينولول يستخدم لخفض ضغط الدم			
22	يعطى علاج الاتينولول عن طريق الوريد فقط			
23	الكابوتين يعطى قبل ساعه او ساعتين بعد الطعام ليمتص العلاج بأكمله			
24	الكابوتين يسبب صداع ، سعال ، أرق ، دوخة ، تعب بصورة مستمرة			
25	الاملودبين يستخدم لعلاج هبوط الضغط وداء السكري			
26	الاثار الجانبيه بصورة متكررة لليزينوبريل هي الصداع ، والدوخة ، انخفاض ضغط الدم الوضعي			
27	اليزينوبريل يستخدم لعلاج الضغط عند البالغين والاطفال 6 سنوات فما فوق وايضا علاج ضعف البطين الايسر بعد احتشاء عضلة القلب			
28	من موانع استخدام لوزرتان هي فرط الحساسه للوزرتان			
29	كانديسارتان يعطى للبالغين في البداية 32 ملغ مرة واحدة يوميا.			
30	المرضى الذين يلتزمون بالعلاج معرضين لتلف لاعضاء الرئيسية مثل الكلى او القلب			

المحور الخامس:مقياس التزام المريض بالعلاج

ت	الاسئلة	نعم	لا
1	نسيت ان تاخذ علاجك لانك مشغول(بعمل شاق او مسافر)		
2	نسيت ان تاخذ علاجك عند دعوتك لوجة غداء او عشاء		
3	نسيت ان تاخذ علاجك		
4	تاخرت في شراء العلاج عندما يستنفذ لديك		
5	تتوقف عن اخذ علاجك اذا لم يسمح لك بتناول الطعام الذي تحبه بسبب التداخل المحتمل بين العلاج والطعام		
6	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا كان اقاربك لديهم نفس الوصفة لعلاجك		

	ويستخدمه لفترة طويله وسبب له بعض الاعراض الجانبية		
7	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا اظهرت الفحوصات المختبريه تحسن لديك اثناء فترة العلاج		
8	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا شعرت بانك لم تتحسن اثناء فترة العلاج		
9	تتوقف عن اخذ العلاج بدون استشارة الطبيب اذا شعرت بانك تحسنت اثناء فترة العلاج		
10	تتوقف عن اخذ بعض العلاجات بدون استشارة طبيب اذا شعرت انك تستخدم كميات كبيرة من العلاجات يوميا		
11	تتوقف عن علاجك المستمر اذا اصابك الملل منه		
12	تتوقف عن اخذ العلاج في حالة ظهرت عليك الاعراض الجانبية		
13	تتوقف عن اخذ العلاج اذا كان تامينك المادي لايكفي لتغطية العلاج		
14	تتوقف عن شراء علاجك اذا احسست انه مكلف ماديا		

Appendix (G)

البرنامج الارشادي المتعلق بمعارف مرضى ضغط الدم حول الالتزام بالعلاج

المحاضرة الاولى

عنوان المحاضرة: معارف المرضى المتعلقة بغوامل الخطورة

وقت المحاضرة: من الساعه 9- 10 صباحا

مكان المحاضرة:قاعه في مركز الرازي

الفئة المستهدفة: مرضى فرط ضغط الدم

الوسائل المستخدمة:

1-محاضرة باوربوينت وجهاز عرض البيانات

2-بوسترات

3-سبورة+ اقلام

ماهو ضغط الدم المفرط

ضغط الدم المفرط: هو ارتفاع ضغط الدم عن معدلاته الطبيعية والتي تبلغ 120ملم/زئبق للضغط الانقباضي و 80 ملم/زئبق للضغط الانبساطي وهو احد العوامل الخطرة لأمراض القلب والأوعية الدموية (Ignatavicius, et.al, 2016).

انواع ارتفاع ضغط الدم(من حيث السبب):

1-ارتفاع ضغط الدم الاساسي:

بالنسبه لغالبية البالغين المصابين به, فلا توجد اسباب واضحة ومحددة للاصابة بارتفاع ضغط الدم, وغالبا ما يتطور المرض مع مرور الزمن.

2-ارتفاع ضغط الدم الثانوي:

يحدث نتيجة الاصابة بحالة مرضية اخرى, وغالبا ما يظهر فجأة, ويسبب ارتفاع ضغط الدم بمستويات اعلى من ضغط الدم الاساسي, وقد تتسبب بعض الادوية في الاصابه بهذا النوع من فرط ضغط الدم (Ignatavicius, et al., 2016).

ومن ابرز مسبباته ايضا:

1-الاصابة بمرض انقطاع التنفس المفاجئ اثناء النوم

2- امراض الكلى

3-اورام الغدة الكظرية

4-المعاناة من عيب خلقي في الاوعية الدمويه منذ الولادة

5-تناول بعض الادوية مثل: حبوب منع الحمل وادوية البرد ومزيلات الاحتقان ومسكنات الالم ولبعض الادويه المخدره مثل : الكوكايين والامفيتامينات

6-تناول الخمور

7- اورام الدماغ

8-التهابات الدماغ

9- الحمل (ارتفاع ضغط الدم خلال فترة الحمل)

10- تضيق الشريان الأبهر

.(Ignatavicius, et al., 2016)

انواع الضغط الدموي من حيث القياسات:

حسب قياسات ومؤشرات الضغط الدموي,فهو ينقسم الى اربعة انواع:

1-ضغط الدم الطبيعي:اقل من 120/80ملم/زئبق

2-مرحلة ماقبل ارتفاع ضغط الدم(prehypertension)يتراوح فيه الضغط الانقباضي من 120الى 139,والضغط الانبساطي من 80 الى 89

3-المرحلة الاولى من مرض ارتفاع الضغط: يبلغ الضغط الانقباضي 140/159ملم/ زئبق ,والضغط الانبساطي 90/99 ملم/ زئبق

4- المرحلة الثانية من ارتفاع الضغط: يعاني المريض المصاب به من مضاعفات كثيرة ,ويبلغ ضغط الدم الانقباضي: 160 او اكثر , وضغط الدم الانبساطي 100 او اكثر

.(Walker, et.al.,2014)

عوامل الخطر لارتفاع ضغط الدم

يعتقد أن مجموعة من العوامل الوراثية (غير القابلة للتغيير) والتي لا يمكن تغييرها والبيئية والتي يمكن تغييرها (القابلة للتغيير) هي عوامل خطر مسؤولة عن تطور ارتفاع ضغط الدم (Ignatavicius, et. al., 2016).

عوامل الخطورة الغير قابلة للتغيير

1-تاريخ الأسرة مع ارتفاع ضغط الدم

ارتفاع ضغط الدم هو أكثر شيوعا عند الأشخاص الذين لديهم تاريخ عائلي لارتفاع ضغط الدم، لذلك يجب تشجيع أولئك على فحص ضغط الدم بانتظام

2-العمر

تنعكس نتائج عملية الشيخوخة في انتشار ضغط الدم بين كبار السن وعندما يكبر الشخص ، تتراكم الترسبات الدهنية في الشرايين وتصبح الأوعية الدموية أكثر صلابة وأقل مرونة ، مما يجعل القلب يعمل بقوة لضخ تدفق الدم عبر الأوعية وهذه التغيرات في الأوعية تزيد من كمية العمل المطلوبة من القلب للحفاظ على تدفق الدم إلى الدورة الدموية ، وبالتالي زيادة ضغط الدم

(Ignatavicius, et al., 2016)

3- داء السكري

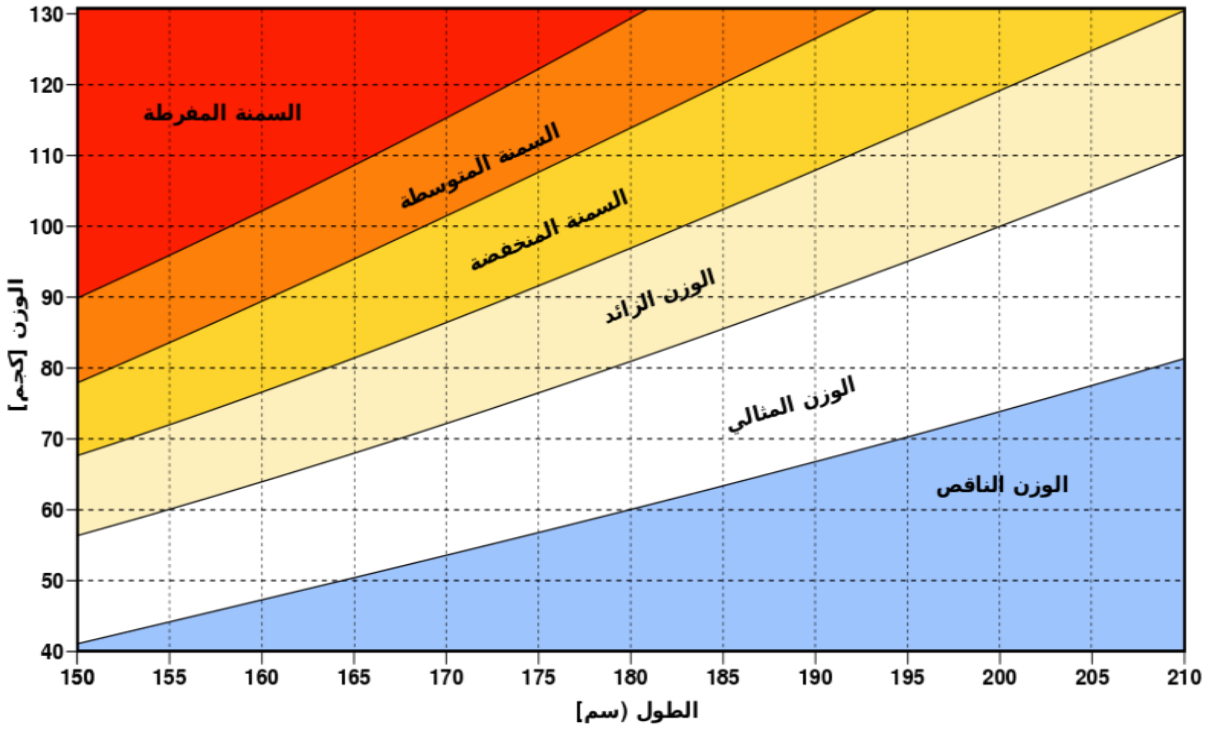
المرضى البالغين الذين يعانون من مرض السكري يكونون معرضين لخطر الاصابة بارتفاع ضغط الدم مع التاريخ العائلي. تعد تغييرات نمط الحياة والالتزام بالعلاج أمراً حاسماً لمنع النوبات القلبية والسكتات الدماغية والعمى والفشل الكلوي المرتبطه بالمستويات المرتفعه من الكلوكوز وضغط الدم (Ignatavicius, et al., 2016).

عوامل الخطورة القابله للتغيير

ينصح العديد من المرضى المصابين بارتفاع ضغط الدم بتغيير العديد من السلوكيات في نمط الحياة للحد من مخاطر ارتفاع ضغط الدم وغالبا ما تستخدم هذه السلوكيات في نمط الحياة مع الأدوية الخافضة للضغط للسيطرة على ارتفاع ضغط الدم وتعزيز تأثيرات الدواء ، والعديد من هذه السلوكيات هي:

1-تخفيض الوزن

تخفيض الوزن هو أحد أهم التغييرات في نمط الحياة لخفض ضغط الدم ، لأن هناك علاقة عالية بين زيادة وزن الجسم وزيادة ضغط الدم. يجب استشارة مقدم الرعاية الصحية وأخصائي التغذية لمساعدة المريض على وضع خطة لتقليل الوزن (Ignatavicius, et al., 2016) .



مخطط اعرف وزنك الصحي **(WHO,2013)**

2-تنظيم وجبات الطعام:

أ-الملح: يرتبط ارتفاع ضغط الدم بنظام غذائي يحتوي على نسبة عالية من الملح و المرضى الذين يمكن خفض ضغط الدم لديهم عن طريق تقايل الصوديوم الغذائي تسمى حساسية الملح و هذه الحساسية شائعة على وجه التحديد بين كبار السن والمرضى المصابين بداء السكري والسمنة. المرضى الذين يعانون من ارتفاع ضغط الدم يجب أن لا يضاف الملح أثناء الطهي. كما ينبغي تجنب الاكثارمنه .(Ignatavicius, et al., 2016)

ب-**الكافيين:** التي توجد في(القهوة والشاي والشوكولاتة والمشروبات الغازية ومنتجات الالبان وبعض الادوية) يجب أن يكون تناول الكافيين محدودًا لأنه قد يزيد من صلابة أو تصلب الشريان الأبهر. وهذا يزيد من خطر الإصابة بأمراض القلب والأوعية الدموية لأولئك الذين يعانون من ارتفاع ضغط الدم يجب التأكد من تناول البوتاسيوم والمغنيسيوم والكاليسيوم للمريض للوصول إلى الكمية الكافية لأنه إذا انخفض مستوى هذه العناصر يمكن أن يزيد أيضًا من خطر الإصابة بأمراض القلب والأوعية الدموية، فإن الأطعمة الغنية بالبوتاسيوم تشمل البرتقال والموز والبروكلي. وايظا تم العثور على المغنيسيوم في الخضروات الخضراء مثل السبانخ والمكسرات والبذور وبعض الحبوب الكاملة.

الحليب واللبن والسبانخ غنية بالكالسيوم ، ومن الممكن اختيار الأطعمة الطازجة بدلاً من الأطعمة المعلبة لزيادة كمية هذه العناصر الغذائية (Ignatavicius, et al., 2016) .

3-شرب الكحول

أن الشرب المنتظم للمشروبات الكحولية يوميا يزيد من خطر ارتفاع ضغط الدم ويسبب مقاومة للعلاجات الخافظة للضغط. لذا يجب أن يمتنع المريض عن شرب الكحول لأن ضغط الدم قد ينقص أو يعود إلى طبيعته عند الامتناع عن شرب الكحول (Ignatavicius, et al., 2016) .

4-ممارسة النشاطات الرياضية

المرضى الذين تكون نشاطاتهم الرياضية محدودة او معدومة يكونو اكثر عرضه للسمنة وكذلك معرضين لارتفاع ضغط الدم والعديد من أمراض القلب والأوعية الدموية الأخرى و تساعد التمارين والنشاطات اليومية على الوقاية من ارتفاع ضغط الدم والتحكم فيه عن طريق تقليل الوزن وتقليل الدهون في الجسم وتقليل المقاومة المحيطية. يجب على المريض القادر على القيام بالتمرينات المشاركة في النشاط البدني بانتظام ، مثل المشي السريع وركوب الدراجات والسباحة ، لمدة 30 دقيقة على الأقل يوميًا في معظم أيام الأسبوع (Ignatavicius, et al., 2016) .

5-التدخين

التدخين هو أحد عوامل الخطورة الرئيسية لأمراض القلب والأوعية الدموية وارتفاع ضغط الدم لأن النيكوتين يضيق الأوعية الدموية ،لذلك يجب على مقدم الرعاية الصحية أن ينصح المرضى الذين يعانون من ارتفاع ضغط الدم للتوقف عن التدخين للحد من مخاطر أمراض القلب والأوعية الدموية (Ignatavicius, et al., 2016).

المحاضرة الثانية

عنوان المحاضرة: معارف المرضى المتعلقة بأعراض فرط ضغط الدم

وقت المحاضرة: من الساعه 9- 10 صباحا

مكان المحاضرة:قاعه في مركز الرازي

الفئة المستهدفة : مرضى فرط ضغط الدم

الوسائل المستخدمة:

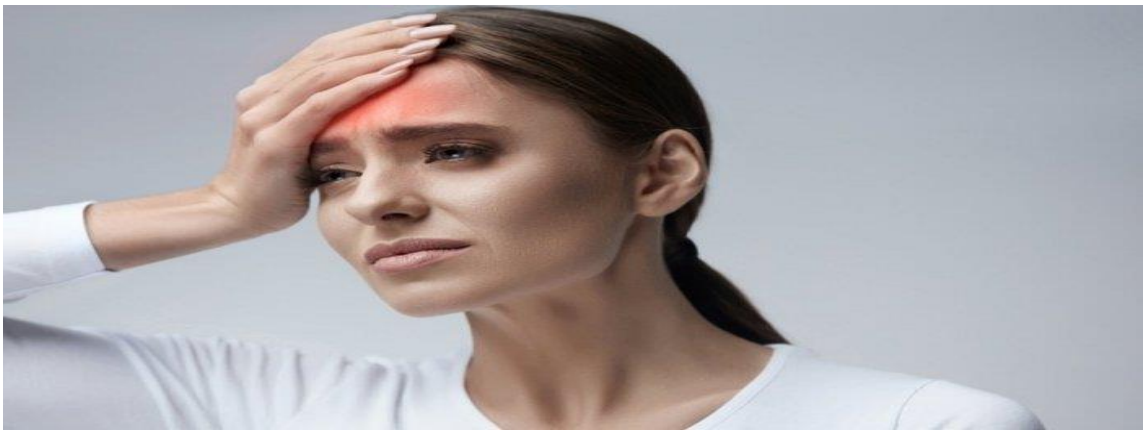
1-محاضرة باوربوينت وجهاز عرض البيانات

2-بوسترات

3-سبورة+ اقلام

اعراض وعلامات فرط ضغط الدم:

1. ارتفاع ضغط الدم أكثر من 140/ 90 ملم/ زئبق أكثر من قياسين في المراجعه الواحدة.
2. الصداع.
3. احمرار الوجه (احمرار).
4. تغيير في الرؤية أو الكلام.
5. الدوخة والضعف.
6. سقوط مفاجئ أو شلل مؤقت على جانب واحد (شلل نصفي)
7. الغثيان (Walker, et al.,2014).



الفحوصات المختبرية:

عندما يتم تشخيص المرض فإن الطبيب يحتاج إلى التأكد من عدم الإصابة بالنوع الثانوي أو بالمضاعفات فيجري الفحوصات التالية:

1- فحص البول للتأكد من خلوه من الزلال و الذي قد يشير إلى وجود مشكلة في الكلى

2- فحص وظائف الكلى للتأكد من سلامتها حيث أن اعتلالها قد يكون نتيجة أو سببا لارتفاع ضغط الدم

3- فحص مستوى السكر و الدهون بعد 15 ساعة صيام

4 - فحص مستوى البوتاسيوم لأن انخفاض مستواه مع الارتفاع الشديد في ضغط الدم قد يشير إلى اعتلال الغدة الكظرية

5 - أشعة الصدر للتأكد من أن حجم القلب طبيعي و أن الشريان الأبهر طبيعي

6 - تخطيط القلب للتأكد من عدم وجود مايشير إلى قصور الشرايين التاجية أو تضخم عضلة القلب (Ignatavicius et al., 2016).

التداخلات العلاجية:

يعتبر تغيير نمط الحياة أساسًا للتحكم في ضغط الدم. إذا لم تنجح هذه التغييرات ، يستخدم مقدم الرعاية الصحية الأساسي الأدوية الخافظة لضغط الدم. لا يوجد علاج جراحي لارتفاع ضغط الدم الأساسي. ومع ذلك ، يمكن الإشارة إلى الجراحة لأسباب معينة لارتفاع ضغط الدم الثانوي ، مثل أمراض الكُلية ، وتضيق الشريان الأبهر

(Ignatavicius et al., 2016).

تغيير نمط الحياة:

- تقليل الصوديوم ، واخذ مكملات البوتاسيوم داخل النظام الغذائي.
- تقليل الوزن ، إذا كان يعاني من زيادة في الوزن أو السمنة.
- تقليل شرب الكحول والتدخين.
- التمارين الرياضية كل 3 أو 4 أيام في الأسبوع لمدة 30 دقيقة كل يوم في الأسبوع.
- استخدم تقنيات الاسترخاء لتقليل التوتر.
- تجنب التبغ والكافيين.
- تجنب الشد النفسي والعصبي والاجهاد(Walker, et al.,2014).

تعديل النظام الغذائي:

1. يجب أن يقوم المريض المصاب بارتفاع ضغط الدم بتغيير النظام الغذائي ليصبح أفضل ويقلل من خطر الإصابة بأمراض أخرى ، وبالتالي يجب أن يقوم: بتناول المزيد من الفواكه(الموز) والخضراوات ومنتجات الألبان قليلة الدسم وفول الصويا.
2. تقييد الأطعمة التي تحتوي على نسبة عالية من الدهون المشبعة والكوليسترول والدهون غير المشبعة.

3. تناول المزيد من الأطعمة الكاملة الحبوب (البرغل وخبز الشعير والشوفان) والأسماك والدواجن والمكسرات والبقوليات.
4. تقليل الصوديوم والحلويات والمشروبات السكرية واللحوم الحمراء(Walker, et al.,2014)

تقليل الاجهاد :

يعتبر الإجهاد عامل خطر لتطوير ارتفاع ضغط الدم.لذلك لابد من تقليل الاجهاد او التعب وهو وسيلة لخفض ضغط الدم. ويمكن التقليل من الاجهاد من خلال:-

1-التامل: التأمل تمرين هام ومفيد للجسم والعقل والروح إذا مارسته بطريقة صحيحة فهو يعطيك الشعور بالاسترخاء، و يجعلك تتصل بنفسك الطبيعية ومن ثَّم تستطيع التفكير بشكل أنضج وعلى نحو إبداعي ويجعلك تتجه إلى خلق كل ما هو جديد في حياتك ومبدع.

2- التنفس العميق: إنَّ العديد من المشاكل الصحيّة أو النفسيّة التّي تواجه الشخص لا تحتاجُ إلى العلاج الطبيّ أو حتّى مُراجعة الطبيب، فغالبيتها تحتاجُ إلى العناية من قبل الشخص نفسه، فعلى سبيل المثال تُعتبرُ تمارينُ التنفس العميق من أفضل التقنيّات لحل الكثير من المشاكل النفسيّة والجسديّة، بسبب قُدرتها على إعطاء الشخص الشعور بالاسترخاء والراحة.

3-اليوغا او تقنية الاسترخاء: يعتقد الكثيرون أن لليوغا دوراً في علاج ضغط الدم من خلال تقنيات التنفس، و التخلص من التوتر وتغيير نمط الحياة، كما أوضحت دراسة أن ممارسة اليوجا لمدة ساعة يوميا لمدة 11 أسبوع أوضح نتائج جيدة جداً في ضبط ضغط الدم (Ignatavicius et al., 2016).

العلاجات التكميلية والمساعدة:

يستخدم الثوم وكبسولات الاموبجا 3 والالياف الطبيعيه مثل نخالة القمح لعلاج كثير من المشاكل الصحية ومنها ارتفاع ضغط الدم، ولكن الأدلة لدعم استخدام الثوم لمنع ارتفاع ضغط الدم أمر مثير للجدل. لذلك تدعم الأدلة قدرة الثوم على خفض الكوليسترول ، وقدرته على خفض ضغط الدم لدى المرضى المصابين بارتفاع ضغط الدم,لكن يمكن للثوم أن يتلف الكبد ويسبب النزيف في بعض المرضى ، خاصة إذا كان لديهم إجراءات تداخلية مثل الجراحة ، فهنا يجب على مقدم الرعاية الصحية أن يقوم باختبار المرضى قبل البدء بالثوم أو أي علاج بالأعشاب بسبب الآثار الجانبية المحتملة والتفاعلات مع الأعشاب الأخرى ، الأطعمة ، أو العلاجات, وقد نجح العديد من المرضى للسيطرة على ارتفاع ضغط الدم مع التدريب السلوكي ، والتأمل ، والوخز بالإبر كجزء من خطة العلاج الشاملة. هذه الطرق قد تكون مفيدة للغاية مع المرضى الذين يعانون من الإجهاد المستمر و التعب الشديد(Ignatavicius et al., 2016) .

المحاضرة الثالثة

عموان المحاضرة:العلاجات الخافضة لضغط الدم

وقت المحاضرة: من الساعه 9- 10 صباحا

مكان المحاضرة:قاعه في مركز الرازي

الفئة المستهدفة: مرضى فرط ضغط الدم

الوسائل المستخدمة:

1-محاضرة باوربوينت وجهاز عرض البيانات

2-بوسترات

3-سبورة+ اقلام

العقاقير المستعملة لخفض مستوى ضغط الدم

الأدوية الأكثر شيوعًا التي يستعملها المرضى المصابين بفرط ضغط الدم:

1-ادوية مثبطات البيتا: Atenolol

أتينولول(تنورمين)

وتساهم في تخفيف العبء على القلب وتوسيع الاوعية الدموية, وتجعل ضربات القلب بشكل بطيئ وقوة اقل, ويجب الا يتم وصفها بمفردها ولكن يجب وصفها مع عقار اخر . (Kizior and Hodgson,2019)

دواعي الاستخدام:

1- علاج ارتفاع ضغط الدم وحده أو بالاشتراك مع علاجات أخرى.

2- علاج الذبحة الصدرية.

3 - علاج المريض مع احتشاء عضلة القلب المشخص /او(المشتبه به) لتخفيض معدل الوفيات القلبي الوعائي.

4- عدم انتظام ضربات القلب (وخاصة عدم انتظام دقات القلب فوق البطيني وعدم انتظام دقات القلب)

5- تسمم الغدة الدرقيه (Kizior and Hodgson,2019).

-موانع الاستخدام

1-فرط الحساسية للأتينولول

2- الصدمة القلبية .

3- فشل القلب

4- احصار القلب من الدرجة الثانية أو الثالثة (باستثناء جهاز تنظيم ضربات القلب)

5- بطء القلب الجيبي .

6- الوذمة الرئوية.

7- الحمل (Kizior and Hodgson,2019) .

-متوفر على شكل:

أقراص: 25 ملغ ، 50 ملغ ، 100 ملغ

-طريقه الاعطاء والتعامل مع العلاج:

- يعطى عن طريق الفم

- يعطى دون الحاجه الى الطعام

- ممكن تكسير الحبه قبل اخذها (Kizior and Hodgson,2019) .

-الجرعة

البالغين: في البداية ، 25-50 ملغم مرة واحدة يوميا. بعد أسبوع إلى أسبوعين ، قد يزيد الجرعة حتى 100 ملغ مرة واحدة يوميًا.

المسنين: الجرعة الأولية المعتادة ، 25 ملغ / يوم (Kizior and Hodgson,2019) .

الآثار جانبية:

-بصورة عامه الاتينولول جيد التحمل مع اثار جانبيه خفيفه وعابره

-بصورة متكررة: انخفاض ضغط الدم يتجلى في الأطراف الباردة ، والإمساك أو الإسهال ، التعرق ، والدوخة ، والتعب ، والصداع ، والغثيان.

-احيانا: الأرق ، وانتفاخ البطن ، وتكرار البول ، والعجز الجنسي أو انخفاض الرغبة الجنسية ، والاكتئاب

-نادرا : الطفح الجلدي ، ألم مفصلي ، ألم عضلي ، ارتباك (خاصة في كبار السن) ، تغير الطعم او المذاق(Kizior and Hodgson, 2019).

2- كابوتين (كابتوبريل) Captopril

-الاستعمالات :

1 - علاج ارتفاع ضغط الدم.

2-فشل القلب.

3 - اعتلال الكلية السكري.

4-بعد احتشاء عضله القلب للوقايه من فشل البطين (Kizior and Hodgson,2019).

-موانع الاستعمال:

فرط الحساسية للكابتوبريل

متوفر على شكل: الأقراص: 12.5 ملغم ، 25 ملغم ، 50 ملغم ، 100 ملغم.

(Kizior and Hodgson,2019).

-طريقه الاعطاء والتعامل مع العلاج:

عن طريق الفم

-يعطى قبل ساعه او ساعتين بعد الطعام ليمتص بأكمله(لان الطعام يقلل امتصاص العلاج)

-قد يتم تكسير الحبه قبل الاعطاء(Kizior and Hodgson,2019).

-الجرعه

البالغين: في البداية ، 12.5-25 ملغ 2-3 مرات / يوم. قد يزيد بنسبة 12.5-25 مغم/ جرعة في مدة تتراوح من 1-2 أسبوعًا حتى 50 ملغم 3 مرات في اليوم. إضافة مدر للبول قبل زيادة الجرعة.

الحد الأقصى: 450 ملغ / يوم مقسمه الى ثلاث جرعات

الآثار جانبية:

-بصورة متكررة : طفح جلدي.

-احيانا :حكة ، عسر الكلام.

-نادرا: صداع ، سعال ، أرق ، دوخة ، تعب ، تشوش ، توعك ، غثيان ، إسهال أو إمساك، جفاف الفم ، تسارع في ضربات القلب

(Kizior and Hodgson,2019).

3- أملوديبين (نورفاسك): Amlodipine

يساهم في استرخاء عضلات الاوعية الدموية وابطاء معدل ضربات القلب , ويعتبر الدواء الافضل لكبار السن المصابين بارتفاع ضغط الدم(Adams, et.al,2014).

-الاستخدامات:

1-علاج ارتفاع ضغط الدم

2-مرض الشريان التاجي (الذبحة الصدرية المزمنة المستقرة)

موانع الاستعمال: فرط الحساسية للأملوديبين (Adams, et.al,2014).

متوفر على شكل :أقراص: 2.5 ملغ ، 5 ملغ ، 10 ملغ.

ـطريقه الاعطاء والتعامل مع العلاج:

عن طريق الفم : يعطى دون الحاجه الى الطعام

ـالجرعة:

البالغين: في البداية ، 5 ملغ / يوم كجرعة واحدة.

الحد الاقصى:10 ملغم /يوم(Adams, et.al,2014).

ـالأثار جانبية:

- بصورة متكررة: وذمة محيطية ، والصداع.

-احيانا: الدوخة ، والخفقان ، والغثيان ، والتعب غير عادي أو ضعف (الوهن).

- نادرا: ألم في الصدر ، بطء في ضربات القلب ، انخفاض ضغط الدم

(Adams et al.,2014).

4- ليزينوبريل (زيستريل) Lisinopril

الاستعمالات:

1- علاج ارتفاع ضغط الدم عند البالغين والأطفال 6 سنوات فما فوق.

2 –يستخدم العقار وحده أو بالاشتراك مع غيره من علاجات ضغط الدم.

3-علاج مساعد في علاج فشل القلب.

4-علاج احتشاء عضلة القلب الحاد في غضون 24 ساعة للمرض المستقرة ديناميكية الدم لديهم لتحسين البقاء على قيد الحياة.

5 – علاج ضعف البطين الأيسر بعد احتشاء عضله القلب(Adams et al.,2014).

-موانع الاستعمال:

1-فرط الحساسية لليزينوبريل

2- الاستخدام المتزامن مع علاج اليسيكيرن في مرضى داء السكري(Adams, et.al,2014)

-متوفرعلى شكل محلول: عن طريق الفم 1 ملغ / مل

أقراص: 2.5 ملغم ، 5 ملغم ، 10 ملغم ، 20 ملغم ، 30ملغم ، 40 ملغم

-طريقه الاعطاء والتعامل مع العلاج:

- يعطى دون الحاجه الى الطعام

- ممكن تكسير الحبه قبل اخذها(Adams, et.al,2014).

-الجرعة: يستخدم وحده

الكبار: في البداية ، 10 ملغ / يوم. قد يزيد بنسبة 5-10 ملغ / يوم لفترة تتراوح من 1-2 اسبوع.

المدى: 10-40 ملغ / يوم. البالغ: في البداية ، 2.5-5 ميلي غرام في اليوم. قد تزداد بنسبة 2.5-5 ملغ / يوم لفترة تتراوح من 1-2 اسبوع.

الحد الأقصى: 40 ملغ / يوم

فرط ضغط الدم (في الاشتراك مع علاجات اخر لارتفاع ضغط الدم)

الكبار,البالغين: في البداية ، 2.5-5 ملغم / يوم مساوي لاحتياجات المرضى. المدى: 10-40 ملغ / يوم.(Adams, et.al,2014).

-الآثار جانبية:

- بصورة متكررة: الصداع ، والدوخة ، انخفاض ضغط الدم الوضعي

-احيانا: ألم في الصدر ، والتعب ، والطفح الجلدي ، وآلام في البطن ، والغثيان ، والإسهال ، وعدوى الجهاز التنفسي العلوي.

-نادرا: الخفقان ، عدم انتظام دقات القلب ، وذمة محيطية ، والأرق ، وتشوش الحس ، والارتباك ، والإمساك ، جفاف الفم ، وتشنج العضلات.

(Adams et al.,2014).

5- لوزرتان (كووزار) Losartan

-الاستعمالات:

1-علاج ضغط الدم

2-يستخدم وحده او مع مجموعه من علاجات فرط ضغط الدم الاخرى.

3- علاج اعتلال الكلية السكري مع ارتفاع الكرياتينين وبروتين اليوريا (في المرضى الذين يعانون من مرض السكري من النوع 2 وتاريخ ارتفاع ضغط الدم)

4-الوقاية من السكتة الدماغية في المرضى الذين يعانون من ارتفاع ضغط الدم وتضخم البطين الأيسر.

5- يعالج مرضى فشل القلب الذين لايتحملون علاج مثبطات إنزيم أنجيوتنسين.

. (Adams et al.,2014)

-موانع الاستعمال: فرط الحساسية للوزرتان. يصاحب ذلك من استخدام اليسيكيرن في المرضى الذين يعانون من مرض السكري (Adams, et.al,2014).

-متوفرعلى شكل: أقراص: 25 ملغم ، 50 ملغم ، 100 ملغم

-طريقه الاعطاء والتعامل مع العلاج:

عن طريق الفم

-يعطى دون الحاجه الى الطعام

-الجرعة:

البالغين: في البداية ، 50 ملغ مرة واحدة يوميا. الحد الأقصى: يمكن إعطاؤه مرة أو مرتين يوميًا ، مع تناول جرعات يومية إجمالية تتراوح من 25 إلى 100 ملغم.

(Adams et al.,2014).

-الآثار الجانبية:

-متكررة: عدوى الجهاز التنفسي العلوي.

-احيانا: دوار ، إسهال ، سعال.

-نادرة: الأرق ، عسر الهضم ، حرقة ،

آلام الظهر / الساق ، وتشنجات العضلات ، وألم عضلي ، واحتقان الأنف ، والتهاب الجيوب الأنفية ، والاكتئاب (Adams, et.al,2014).

6- كانديسارتان (أتاكاند):Candesartan

وهو الخيار الاول لمرضى الكلى المصابين بارتفاع ضغط الدم (Adams, et.al,2014).

-الاستعمالات :

1- علاج ارتفاع ضغط الدم وحده أو بالاشتراك مع غيرها من الأدوية الخافضة للضغط

2- فشل القلب (Adams et al.,2014).

-موانع الاستعمال: فرط الحساسية للكانديسارتان. يصاحب ذلك مع استخدام اليسيكيرن في المرضى الذين يعانون من مرض السكري.

-متوفر: أقراص: 4 ملغم ، 8 ملغم ، 16 ملغم ، 32 ملغم

-طريقه الاعطاء والتعامل مع العلاج:

عن طريق الفم

الجرعه:

.البالغين ، في البداية ، 16 ملغ مرة واحدة يوميا

المدى: 8 - 32 ملغم / يوم في 1-2 جرعة مقسمة(Adams et al.,2014) .

الآثار الجانبية:

-من حين لآخر: التهاب الجهاز التنفسي العلوي ، والدوخة ، وآلام الظهر / الساق.

- نادرا: التهاب البلعوم ، التهاب الأنف ، والصداع ، والتعب ، والإسهال ، والغثيان ، السعال الجاف ، وذمة محيطية (Adams, et.al,2014).

مخاطر عدم التزام المريض بالعلاج

المرضى الذين يحتاجون إلى أدوية للسيطرة على ارتفاع ضغط الدم الأساسي يحتاجون إلى تناولها طوال فترة حياتهم. بعض المرضى يتوقفون عن أخذها لأنهم قد لاتظهر عليهم الاعراض الجانبية للمرض او قد تظهر اعراض جانبية غير مريحة للمريض.

في المستشفى وحسب الحاجة ، يجب على مقدم الرعاية الصحية مع الصيدلي ان يناقشون نتائج العلاج مع المريض ، بما في ذلك الآثار الجانبية المحتملة. و مساعدة المريض في شرح النظام العلاجي لأسلوب حياته وجدوله اليومي. المرضى الذين لا يلتزمون العلاج الخافض للضغط ترتفع نسبه خطورة لاصابه الاعضاء المستهدفه (الكلى أو القلب) وأزمة ارتفاع ضغط الدم ، ارتفاع حاد في ضغط الدم (أعلى من 120/180) ، والذي يمكن أن يسبب تلفًا في الأعضاء في الكلى أو القلب (Ignatavicius, et al., 2016)

عدم الالتزام بتناول أدوية الضغط قد يكون مميتا

يتوجب على مرضى الضغط تناول الدواء يوميا، لكن بعض المرضى يهملون ذلك، الأمر الذي قد يهدد حياتهم. دراسة إيطالية حديثة تتوصل إلى أن عدم التزام مرضى ارتفاع ضغط الدم بتناول أدويتهم يزيد من احتمالات الإصابة بالأزمات القلبية.

افادت نتائج دراسة أجريت في ايطاليا بأن المرضى الذين عادة ما لا يلتزمون بتناول أدوية علاج ارتفاع ضغط الدم قد يكونون أكثر عرضة لنقلهم للمستشفيات بسبب الإصابة بالأزمات القلبية، وذلك بالمقارنة بمن ينسون تعاطيها بين الحين والآخر

(Walker, et al., 2014)

Appendix (H)

قائمة بأسماء الخبراء

ت	الاسم الثلاثي	اللقب العلمي	سنوات الخبرة	مكان العمل
1	خالدة علوان منصور	استاذ	36 عام	فرع تمريض النسائية-كلية التمريض
2	حكيمة شاكر حسن	استاذ	32 عام	فرع تمريض البالغين-كلية التمريض
3	حسين هادي عطية	استاذ مساعد	16 عام	فرع تمريض البالغين-كلية التمريض
4	صباح عباس احمد	استاذ مساعد	34 عام	فرع اساسيات التمريض-كلية التمريض
5	آلاء حسن ميرزة حسين	مدرس	17 عام	فرع العلوم الاساسية-كلية التمريض
6	علي حسين سليم القيسي	مدرس	14 عام	فرع تمريض البالغين-كلية التمريض
7	صادق عبد الحسين حسن	مدرس	11 عام	فرع تمريض البالغين-كلية التمريض
8	عطور طالب جاسم	مدرس	15 عام	جامعة البصرة -كلية التمريض
9	علي حسين علي	طبيب اختصاص	10 عام	مستشفى الصرة العام
10	عباس حمد	طبيب اختصاص	25 عام	مستشفى البصرة العام

Appendix (I)

Pre and post-test of pilot study for patient's adherence medication of hypertension

No	Compliance	Pretest-pilot study		Posttest-pilot study	
		M.	S.D.	M	SD
1	Do you forget to take your medication when you are busy	1.06	0.258	1.66	0.487
2	Do you forget to take your medication if you are invited to lunch or dinner?	1.26	0.457	1.53	0.516
3	Do you forget to take your medication?	1.06	0.258	1.26	0.457
4	Do you get late when it comes to buying your medication	1.40	0.507	1.80	0.414
5	Do you stop taking your medication if it forbids you from eating certain food that you love because of possible food-medication interaction?	1.33	0.487	1.53	0.516
6	Will you stop taking your medication, without your doctor's consultation, if your neighbor/relative took a prescription like yours for a long term and it caused them side effects?	1.23	0.258	1.86	0.351
7	Do you stop taking your medication without consulting your doctor if the laboratory tests show improvement during treatment period?	1.23	0.516	1.80	0.414
8	Do you stop taking your medication without consulting your doctor if you do not feel better during treatment period?	1.26	0.487	1.86	0.351
9	Do you stop taking your medication without consulting your doctor if you feel better during treatment period?	1.20	0.507	1.80	0.414
10	Do you decide to stop some of your medications without consulting your doctor if you noticed that you are taking too many medications every day?	1.26	2.58	1.86	0.351
11	Do you stop your chronic treatment if you get bored of it?	1.26	0.516	1.46	0.516
12	Do you stop taking your medication in case of side effects?	1.06	0.258	1.33	0.487
13	Do you stop taking your medication if your insurance does not cover it?	1.26	0.516	1.66	0.487
14	Will you stop buying your medication packs if you considered them expensive?	1.26	0.516	1.66	0.487
	Total mean	1.1		1.6	

Appendix (J)

Pre and post-test of patient's knowledge for hypertension medication

No	Knowledge	Pre-pilot		Post pilot	
		M	SD	M	SD
1	Hypertension is a major cause of gastrointestinal diseases	1.20	0.414	1.80	0.414
2	Primary blood pressure develops over time	1.06	0.258	1.40	0.507
3	High salt content in the body leads to high blood pressure	1.00	0.000	2.00	0.000
4	Blood pressure is more than 130 \ 90 mm / Hg is normal	1.00	0.000	2.00	0.000
5	Adult patients with diabetes are not at risk for high blood pressure	1.20	0.414	1.80	0.414
6	Age and diabetes mellitus are an unchangeable risk factor for hypertension	1.26	0.457	1.60	0.507
7	Reducing weight, organizing meals, exercising, reducing smoking and drinking alcohol are a risk factor for high blood pressure	1.36	0.487	2.00	0.000
8	there is no obvious cause for Primary hypertension	1.06	0.258	1.40	0.507
9	Renal failure is one of the causes of secondary hypertension	1.13	0.351	1.73	0.457
10	Signs of hypertension are headaches, dizziness, nausea and facial redness	1.23	0.258	2.00	0.000
11	Cholesterol, blood, urine analysis and ECG are essential for the diagnosis of hypertension	1.23	0.516	1.80	0.414
12	Lifestyle change is not considered a therapeutic intervention for hypertension	1.00	0.000	2.00	0.000
13	Garlic can damage the liver and cause bleeding in some patients with hypertension	1.00	0.000	1.73	0.457
14	Exercise, relaxation techniques and reduced fatigue play in reducing hypertension	1.30	0.414	2.00	0.000
15	The patient with hypertension should not change the diet to become better	1.00	0.000	2.00	0.000
16	A patient with high blood pressure should reduce fat, salt, sweets, and red meat	1.00	0.000	2.00	0.000
17	Stress is an important factor for treating high blood pressure	1.23	0.258	2.00	0.000
18	Breathing techniques, relaxation and meditation are important t to reduce fatigue or stress	1.13	0.351	1.66	0.487
19	Use garlic, omega-3 capsules and natural fiber such as wheat bran to treat many health problems including high blood pressure	1.06	0.258	1.73	0.457
20	Atenolol contributes to reducing the pressure on the heart	1.06	0.258	1.13	0.351
21	Atenolol is used to lower blood pressure	1.06	0.258	1.13	0.351
22	Atenolol is given intravenously only	1.03	0.258	1.86	0.351
23	Capoten is given an hour or two after the meal to absorb the entire treatment	1.40	0.507	1.53	0.516
24	Capoten causes headache, cough, insomnia, dizziness, constant fatigue	1.23	0.258	1.93	0.258
25	Amlodipine is used to treat hypotension and diabetes	1.26	0.351	1.93	0.258
26	The frequent side effects of lisinopril are headache, dizziness, orthostatic hypotension	1.00	0.000	1.13	0.351
27	Lisinopril is used to treat stress in adults and children 6 years of age and above and also to treat left ventricular dysfunction following myocardial infarction	1.06	0.258	1.06	0.258
28	One of the contraindications of Losartan is the hypersensitivity to Losartan	1.06	0.258	1.40	0.507
29	Candesartan is initially given to adults 32 mg once a day.	1.26	0.351	1.93	0.258
30	Patients who are adherence to medications are exposed to damage the key organs such as kidneys or heart	1.20	0.414	2.00	0.000
	Total mean	1.1		1.7	

الخلاصة

يعرف فرط ضغط الدم بأنه ضغط الدم الانقباضي اكثر من 140 ملم\ زئبق و / أو ضغط الدم الانبساطي اكثر من 90 ملم\ زئبق.ويعتبر فرط ضغط الدم تحدي عالمي للصحة العامة في جميع أنحاء العالم و يساهم في أمراض القلب والسكتة الدماغية والفشل الكلوي والامراض المبكرة والوفيات. الالتزام بالعلاج المضاد لفرط ضغط الدم هو المفتاح الرئيسي لضمان نجاح نتائج العلاج الكامل.

تهدف الدراسة الحالية لايجاد فاعلية البرنامج التعليمي في معارف المريض و التزامه بعلاج فرط ضغط الدم.

منهجية الدراسة: أجريت دراسة شبه تجريبية في مركز الرازي في محافظة البصرة. بدأت الدراسة بتأريخ 8 تشرين الاول 2018 إلى 17 اذار 2019و تم اختيار (50) مريض مشخص بفرط ضغط الدم الذين يراجعون مركز الرازي. وتم جمع البيانات باستعمال الاستبيان المعد لهذا الغرض. و المتكون من (44) فقرة تتعلق بالتزام المرضى ومعارفهم حول اهمية الالتزام بأدوية ضغط فرط الدم. وتم قياس صدق الاستبانة باستخدام مقياس كرون باخ والمساوي 0.74 وتم تحليل البيانات باستخدام التحليل الوصفي والاستدلالي.

النتائج: اشارت نتائج الدراسة الى تحسنًا واضحاً في معارف المرضى والتزامهم بأدوية فرط ضغط الدم في الاختبار البعدي للبرنامج من خلال الوسط الحسابي الكلي والمساوي (1.71) وانخفض مستوى عدم التزام المرضى إلى 24,7٪.

الاستنتاجات: استنتجت الدراسة الحالية بأن البرنامج التعليمي كان له تأثير إيجابي على المرضى وأظهرت الدراسة تغيرات مهمة في مستوى معارفهم حيث تحسنت معارفهم من المستوى المتوسط في مرحلة ما قبل الاختبار إلى المستوى العالي في مرحلة ما بعد الاختبار.

التوصيات: توصي الدراسة الحالية بإنشاء قسم مخصص في كل مركز علاجي لفرط ضغط الدم لتوجيه المرضى بالمعارف حول أهمية الالتزام والمتابعة في حالة تغيير المريض لعلاجه.

جامعـــــة بغـــداد

كليـــــة التمريـــــض

فاعلية البرنامج الارشادي المتعلق بالالتزام بالعلاج على معارف مرضى فرط ضغط الدم في مركز الرازي في محافظة البصرة

رسـالة تقدم بها

أحمد ثامر سعود

لفـــرع

تمريض البالغين ــ كلية التمريض ــ جامعة بغداد

كجزء من متطلبات نيل شهادة الماجستير في علوم التمريض

إشـــــراف

أ.د. هـــــــدى باقـــــر حسن

حزيران / 2019 شوال / 1440