PREVALENCE AND ASSOCIATED LIFESTYLE DETERMINANTS OF HYPERTENSION AMONG NON-TEACHING STAFF AT THOMAS ADEWUMI UNIVERSITY, OKO, KWARA STATE

BY

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CERTIFICATION

This project by Oyeyemi, David Opeyemi is accepted in its present form as satisfying the requirement for the award of Bachelor of Physiotherapy (BPT) degree of the Basic Medical and Health Sciences of Thomas Adewumi University, Oko, Kwara State.

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DEDICATION

This project is wholeheartedly dedicated to the Almighty God, the source of my wisdom, strength, and success.

I also dedicate this work to my supportive and loving parents, Mr. and Mrs. Oyeyemi, whose unwavering encouragement and sacrifices have been the foundation of my achievements.

ABSTRACT

Hypertension remains a leading global public health concern, particularly in low- and middle-income countries (LMICs) where it contributes significantly to cardiovascular morbidity and mortality. This study investigated the prevalence and associated lifestyle determinants of hypertension among nonteaching staff at Thomas Adewumi University, Oko, Kwara State, Nigeria. A descriptive cross-sectional design was employed, involving 87 nonteaching staff selected through purposive sampling. Data were collected using a structured questionnaire adapted from a validated tool and physiological measurements were taken using a sphygmomanometer and stethoscope.

The report showed that 28 (32.2%) of participants had been diagnosed with hypertension, with the highest prevalence observed among those aged 33 years and above. A notable proportion of participants (34 or 39.1%) reported a family history of hypertension, while only 25 (28.7%) were on antihypertensive medication, indicating possible underdiagnoses or treatment gaps.

Lifestyle factors such as physical inactivity (43.7%), poor dietary habits (e.g., 63.2% consumed sugary snacks or drinks), alcohol consumption (37.9%), and smoking (21.8%) were statistically associated with hypertension. A significant relationship was found between perceived stress and hypertension ($p = 0.027$), as well as between exercise frequency and hypertension ($p = 0.042$). Hypertension also adversely impacted quality of life and daily functioning ($p = 0.022$).

These findings underscore the urgent need for institutional interventions, including routine health screening, stress management programs, health education, and promotion of physical activity among nonteaching university staff. This study contributes to a better understanding

of how lifestyle factors influence hypertension prevalence, informing policy strategies and targeted public health interventions in institutional settings.

Keywords: Hypertension, Prevalence, Lifestyle determinants, Nonteaching staff, Physical inactivity, Stress, Nigeria, University health

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

The estimated rate of hypertension affecting about 1.13 billion people worldwide, with most (two-thirds) living in low- and middle-income countries (LMICs) (WHO), is mainly due to a rise in hypertension risk factors in their population (Adeleke *et al*., 2022). High systolic blood pressure (BP) is the leading risk factor by attributable disability-adjusted life-years (DALYs), in 2019, hypertension was the leading risk factor. The African Region of the World Health Organization (WHO, 2021) has the highest prevalence of hypertension reported to be (27%). The population of most low and middle-income countries is one major cause of the high risk of hypertension in those areas. (Azuka *et al*., 2024).

Hypertension has emerged as one of the most pressing public health challenges in Nigeria, with an estimated 32.5% prevalence among adults as of 2020—an alarming rise from just 8.6% in 1995—indicating that more than 27 million Nigerians are now affected (Adeloye *et al*., 2021). This growing burden is largely driven by rapid urbanization, sedentary lifestyles, poor dietary habits, rising obesity, alcohol consumption, and limited access to preventive healthcare services (Onyemelukwe *et al*., 2024; Adeloye *et al*., 2021). From the patient perspective, low health literacy,

poverty, inability to afford medications, poor access to care, and challenges with long-term medication adherence remain major barriers. The World Health Organization's (WHO) HEARTS technical package outlines strategies for health systems to improve care for cardiovascular health in primary healthcare settings. (Oluwabunmi *et al*., 2024) .

Current evidence shows the gaps in hypertension management were attributable to sociodemographic determinants and lifestyle factors. An earlier study had suggested that demographics and lifestyle variables determined racial differences in hypertension prevalence. Nigeria has a rapidly growing population with increasing urbanization and numerous ethnic groups across the country's different regions. However, in Nigeria, the relationship between socio-demographic/lifestyle factors and hypertension is understudied. (Adeleke *et al*.., 2022)

Several studies has shown the relation between obesity and hypertension. There has been an increase in hypertension with elevated BMI as a contributing factor from the lower limit to the upper limit of the normal. According to Williams *et al* healthy BMI and waist circumference values reduces blood pressure and cardiovascular risk. (Akinpelu *et al*., 2023).

1.2 Statement of the problem

Despite the increasing prevalence of hypertension in Nigeria, current efforts to address the condition has yielded limited success, particularly in individuals who are engaged in high stress, physical demanding, and sedentary and long working hour jobs. Unhealthy lifestyles habits has also significantly contributed to

hypertension risk. This is mostly evident among workers in the nonacademic fields of many institution due to the low rates of awareness, treatment, and control of hypertension among them.

This research is targeted to answer the following question:

1. What is the prevalence of hypertension among the nonteaching staff of Thomas Adewumi University?
2. How does lifestyles factors such as physical inactivity, diets, rest period, smoking and tobacco associate with hypertension prevalence among nonteaching staff at Thomas Adewumi University?

1.3 Aim of study

The research aims to determine the prevalence and associated lifestyle determinant of hypertension among Non-teaching staff at Thomas Adewumi University, oko, Kwara State.

1.3.1 Specific Objectives

The specific objective were:

1. Examine the prevalence of hypertension among nonteaching staff of Thomas Adewumi University.
2. Determine the lifestyle determinants of hypertension among nonteaching staff of Thomas Adewumi University.

1.4 Significance of the Study

This study helps to investigate the prevalence and risk factors of hypertension among non-teaching staff of Thomas Adewumi University, thereby contributing to the understanding of health vulnerabilities related to lifestyle and occupational stress in similar institutional environments. By identifying key determinants of hypertension—such as physical inactivity, poor diet, stress, and lack of awareness—this research supports efforts aimed at improving prevention and management strategies for non-communicable diseases.

Importantly, this aligns with the United Nations Sustainable Development Goal (SDG) 3, which seeks to ensure healthy lives and promote well-being for all at all ages. Specifically, Target 3.4 under SDG 3 aims to reduce premature mortality from non-communicable diseases through prevention and treatment by 2030. This study provides context-specific evidence that can inform workplace health programs and public health interventions aligned with that target.

Furthermore, by addressing health risks that can reduce productivity and increase absenteeism, this study also supports SDG 8: Decent Work and Economic Growth, which emphasizes the importance of promoting safe and healthy work environments. Healthier employees are more productive and contribute positively to institutional and national development.

The outcomes of this research can guide institutional health policy, inform awareness campaigns, and improve health outcomes among university staff.

Ultimately, the study contributes to the global health agenda by linking local evidence with international development goals.

1.5 Scope of the Study

This study focuses on the nonacademic staff of Thomas Adewumi University, specifically those without lecturing or teaching duties. The scope includes both male and female staffs members, considering their diverse lifestyles and occupation as its unique to each individual. The study is confined to Thomas Adewumi University oko-irese, excluding other populations.

1.6 Limitations of the Study

The limitation of this study was:

1. Location Constraint: This research is constrained to Thomas Adewumi University only.

2. Literacy Barrier: Due to the literacy level of some of the nonteaching staff Researcher-administered questionnaires may introduce bias i.e researchers may have to ask leading questions from the staffs.

3. Availability of staffs: Staffs such as drivers, cafeteria staffs and cleaners are hardly less busy during their shift e.g drivers are always on the move, cafeteria staffs are usually serving food frequently to students which made it difficult to have time to access staffs for data collection

1.7 Definitions of Terms

Prevalence: Prevalence refers to the proportion of a particular population found to have a specific condition or characteristic at a given point in time or over a specified period. It is often expressed as a percentage and provides valuable information about the burden of a particular health condition within a defined population. (American Psychological Association, (2020)

Hypertension: hypertension (high blood pressure) is when the pressure of the blood vessels are 140/90 mmhg or higher. It is common but can be serious if not treated. The symptoms of this disease may not be evident until other complication set in, therefore the only way to know is to get the blood pressure checked from time to time. (WHO, 2023).

Nonteaching staff: Nonteaching staffs members are professional employees that contribute to the achievement of a higher institution. Their contributions include professional skills, essential resources and work alongside of faculty and administration in realizing the institution goals and ambition. (Mukul Guptal, 2021).

1.8 List of Abbreviations

BP- Blood pressure

DALYs- Disability-Adjusted Life Years

HTN- Hypertension Treatment in Nigeria Program

HEARTS- Healthy lifestyle Evidence Access Risk factor Treatment and Management Strengthened health systems

LMICs- Low- and middle-income countries

NCD- Non-Commucable diseases

PHC- Primary Health Centers

SDGs- Sustainable Development Goals

WHO- World Health Organization

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

Hypertension has grown into a leading cause of morbidity and mortality globally, especially in low- and middle-income countries such as Nigeria. With the increasing burden of non-communicable diseases, recent studies have emphasized the urgency of addressing hypertension through updated strategies. This chapter critically reviews recent literature on hypertension with emphasis on prevalence, risk factors, treatment barriers, and innovative interventions particularly in the Nigeria.

2.2 Epidemiology of Hypertension

Globally, an estimated 26% of the world's population (972 million people) has hypertension, and the prevalence is expected to increase to 29% by 2025, driven largely by increases in economically developing nations. National health surveys in various countries have shown a high prevalence of poor control of hypertension. These studies have reported that prevalence of hypertension is 22% in Canada, of which 16% is controlled; it is 26.3% in Egypt, of which 8% is controlled; and it is 13.6% in China, of which 3% is controlled. (Albert, 2024).

Several studies have reported the increasing prevalence of hypertension in Africa. Nigeria, as the most populous country in Africa, is also a major contributor to the

increasing burden of hypertension in the continent. Between 1995 and 2020, the estimated age-adjusted prevalence of hypertension increased from 8.5% to 32.5%. A recent study also found a similar prevalence of 38% from a nationwide survey in Nigeria. Over the years, there has been an increase in the burden of hypertension in Nigeria. A recent systematic review reported an increase from 8.2% in 1990 to 32.5% in 2020. A previous publication from the REMAH study found the prevalence of hypertension was 38%. Findings from a meta-analysis in Africa showed an estimated prevalence of 57% in an older adult population ≥50 years which may indicate the increasing burden of hypertension with increasing age, just as our study noted the increasing association of hypertension with increase in age. (Azuka *et al*., 2024)

Hypertension in Nigeria is driven by modifiable lifestyle factors such as high salt consumption, obesity, and physical inactivity, as well as socioeconomic influences. Moloro *et al*. (2023) identified age, body mass index (BMI), income, and education as significant determinants of hypertension among working-class populations in urban African settings. Additionally, Adeoye *et al*. (2022) emphasized that urbanization and the transition to sedentary jobs are strongly associated with higher hypertension rates, especially in middle-aged adults.

Despite the availability of antihypertensive medications, access and adherence remain major challenges. Only about 12% of hypertensive individuals in Nigeria are receiving consistent treatment, and fewer than 3% achieve adequate blood pressure control (Ogungbe *et al*., 2024). Major barriers include the high cost of medications, irregular supply, long travel times to clinics, and low levels of health literacy (Folb

et al., 2021). These challenges disproportionately affect rural and underserved urban populations, exacerbating inequalities in health outcomes.

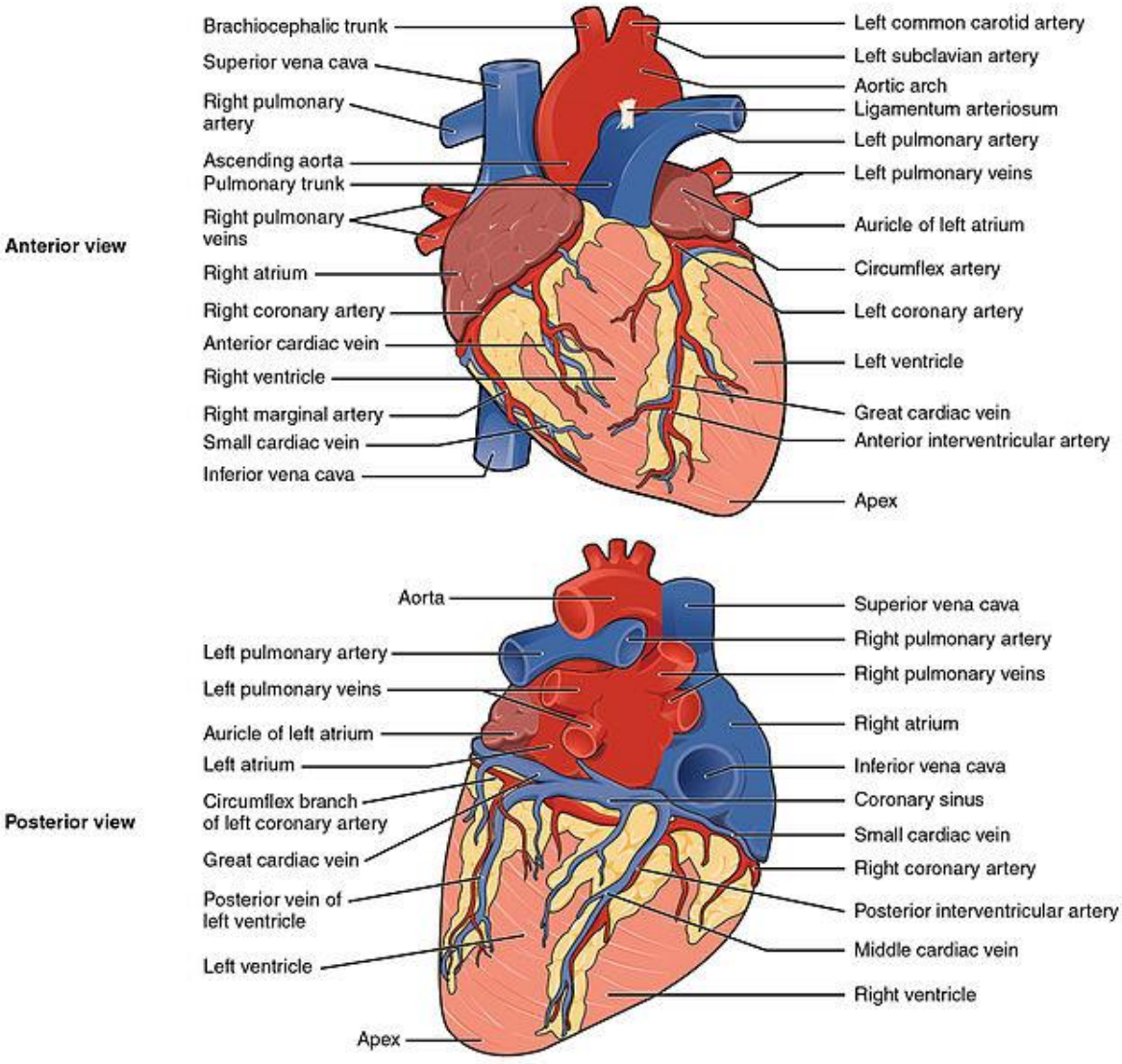

FIG 1. Anterior and Posterior View of the Heart

2.3 Anatomy

2.3.1 Anatomy of the heart

The heart is a conical hollow muscular organ situated in the middle mediastinum and is enclosed within the pericardium. It is positioned posteriorly to the body of the sternum with one-third situated on the right and two-thirds on the left of the midline. The heart measures 12 x 8.5 x 6 cm and weighs ~310 g (males) and ~255 g (females). It pumps blood to various parts of the body to meet their nutritive requirements.

Relations

1. Anteriorly: the body of the sternum, and adjoining costal cartilages; left lung, and pleura (apex)
2. Posteriorly: oesophagus, descending thoracic aorta, azygos, hemiazygos veins, and thoracic duct
3. Superficially : bifurcation of the main pulmonary trunk
4. Inferiorly: diaphragm
5. Laterally: lungs, pleura

2.2.2 Layers of the Heart

The heart wall consists of three layers enclosed in the pericardium:

1. Epicardium - the outer layer of the wall of the heart and is formed by the visceral layer of the serous pericardium.
2. Myocardium - the muscular middle layer of the wall of the heart and has excitable tissue and the conducting system.

3. Endocardium – the inner layer of the heart consisting of the middle concentric layer.

The rest of the heart is composed mainly of the subepicardial and subendocardial layers.

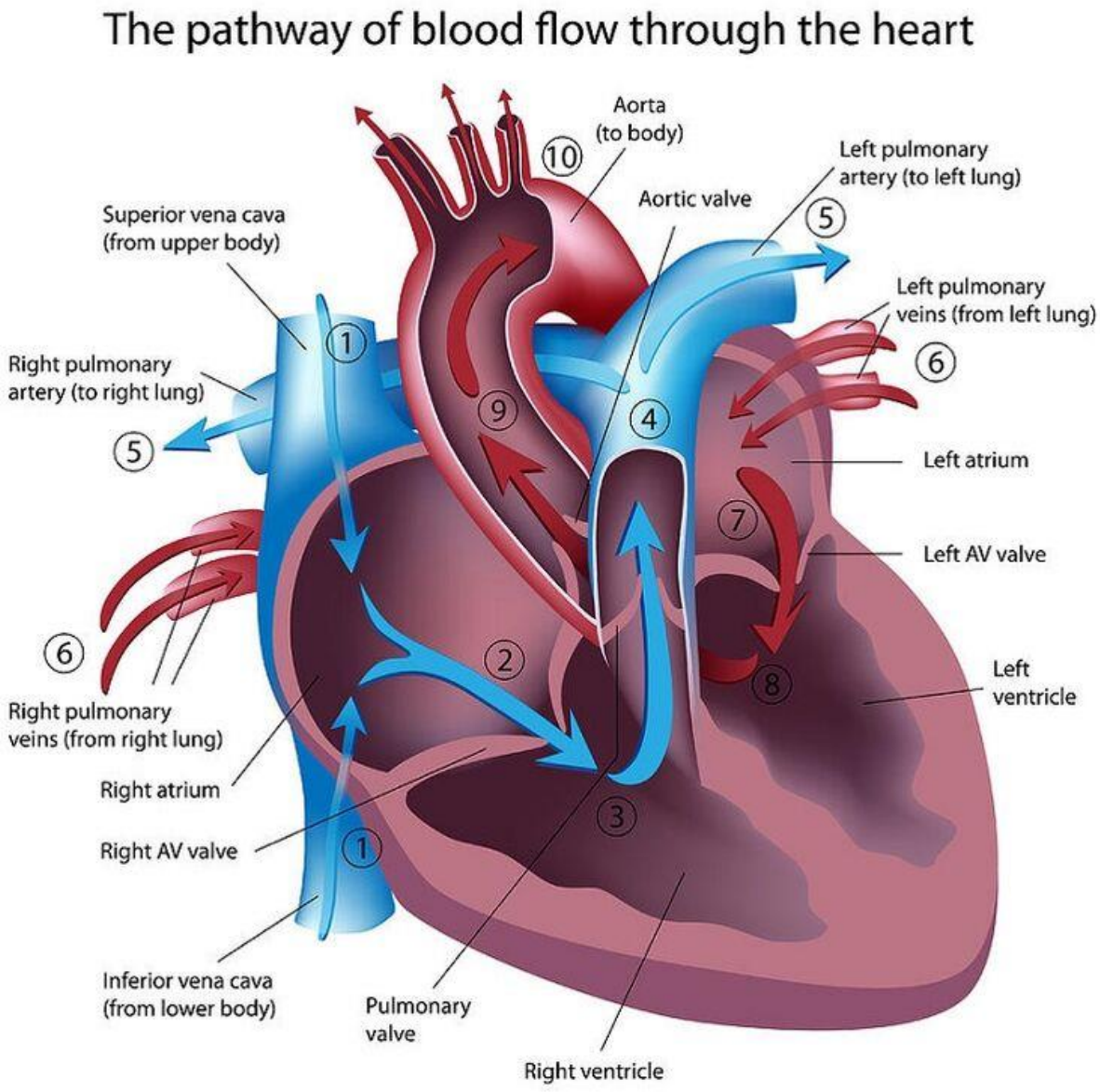

FIG 2. Pathway of blood flow through the heart

2.2.3 Structure and Function

The heart is subdivided by septa into right and left halves, and a constriction subdivides each half of the organ into two cavities, the upper cavity being called the atrium, the lower the ventricle. The heart, therefore, consists of four chambers:

1. right atrium
2. left atrium
3. right ventricle
4. left ventricle.

The heart maintains systemic and pulmonary circulation by directing blood through a specific route. Venous blood from the systemic circulation returns to the right atrium via the superior and inferior vena cava and the coronary sinus. From the right atrium, blood flows through the tricuspid valve into the right ventricle. During ventricular systole, the right ventricle pumps blood through the pulmonary valve into the pulmonary trunk, which then divides into left and right pulmonary arteries directing blood to the lungs for oxygenation.

Oxygenated blood returns from the lungs via the pulmonary veins into the left atrium. It then passes through the mitral (bicuspid) valve into the left ventricle. The left ventricle, being the strongest chamber, contracts to propel blood through the aortic valve into the ascending aorta and then to the systemic circulation. (Chen *et al*., 2021).

2.3.4 Heart Valves

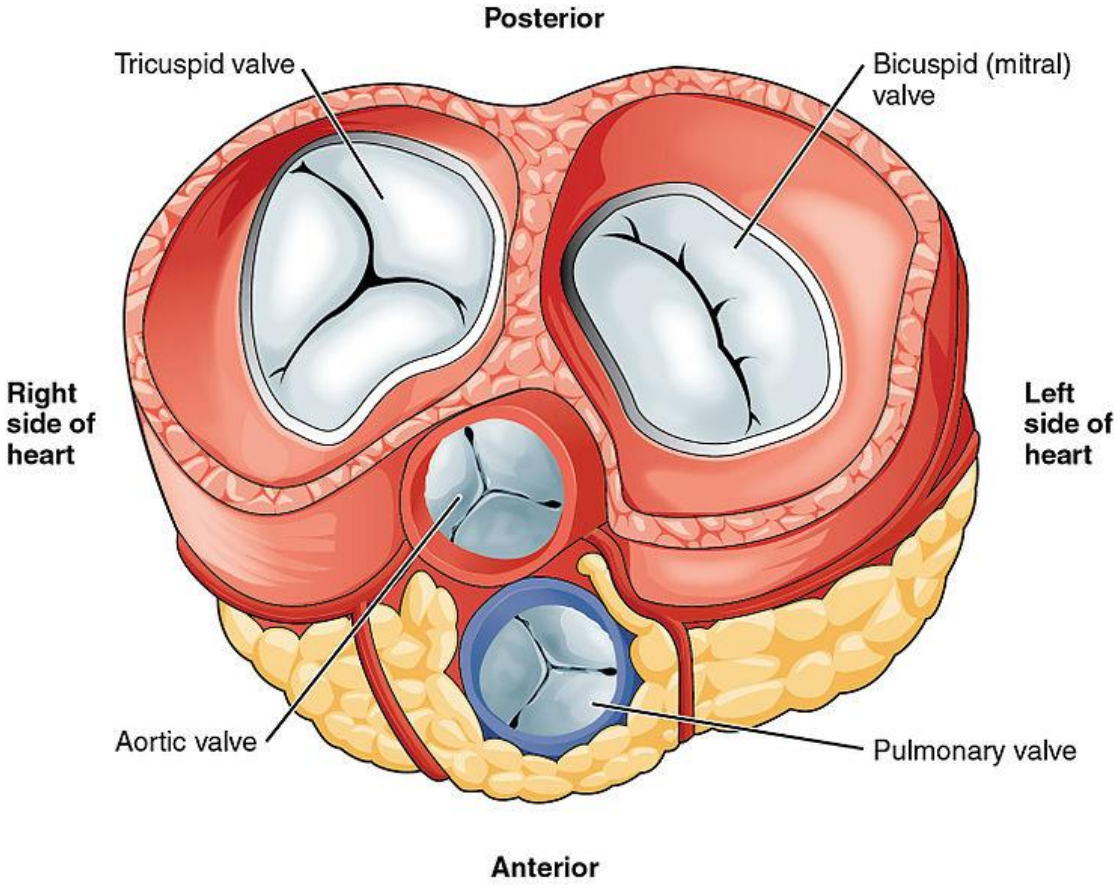

FIG 3. Valves of the heart

There are four main valves ensuring unidirectional blood flow: -

1. Atrioventricular Valves: Tricuspid and Mitral (Bicuspid).
2. Semilunar Valves: Aortic and Pulmonary valves (American Heart Association, 2022).

2.3.5 Blood Supply

The heart is supplied by two coronary arteries:

1. The right artery
2. The left coronary artery

The heart receives blood supply primarily from the coronary arteries. The right and left coronary arteries originate from the base of the ascending aorta. The left coronary artery (LCA) bifurcates into the left anterior descending artery (LAD) and the circumflex artery, which supply the anterior wall, septum, and lateral aspects of the left ventricle. The right coronary artery (RCA) supplies the right atrium, right ventricle, and parts of the conduction system including the sinoatrial (SA) and atrioventricular (AV) nodes. (Luo *et al*., 2022)

2.3.6 Venous drainage and Lymphatics

Venous drainage is via the variable coronary veins and the coronary sinus.

The lymphatic vessels drain mainly into:

1. Brachiocephalic nodes, in front of brachiocephalic veins
2. Tracheobronchial nodes, located at the distal end of the trachea.

2.3.7 Arteries, veins and Capillaries

Arteries

Arteries play a major role in nourishing organs with blood and nutrients. Arteries are always under high pressure. To accommodate this stress, they have an abundance of elastic tissue and less smooth muscle. The presence of elastin in the large blood vessels enables these vessels to increase in size and alter their diameter. When an artery reaches a particular organ, it undergoes a further division into smaller vessels that have more smooth muscle and less elastic tissue. As the diameter of the blood vessels decreases, the velocity of blood flow also diminishes. Estimates are that about 10% to 15% of the total blood volume is contained in the arterial system. This feature of high systemic pressure and low volume is typical of the arterial system.

There are two main types of arteries found in the body: (1) the elastic arteries, and (2) the muscular arteries. Muscular arteries include the anatomically named arteries like the brachial artery, the radial artery, and the femoral artery, for example. Muscular arteries contain more smooth muscle cells in the tunica media layer than

the elastic arteries. Elastic arteries are those nearest the heart (aorta and pulmonary arteries) that contain much more elastic tissue in the tunica media than muscular arteries. This feature of the elastic arteries allows them to maintain a relatively constant pressure gradient despite the constant pumping action of the heart.

Arterioles

Arterioles provide blood to the organs and are chiefly composed of smooth muscle. The autonomic nervous system influences the diameter and shape of arterioles. They respond to the tissue's need for more nutrients/oxygen. Arterioles play a significant role in the systemic vascular resistance because of the lack of significant elastic tissue in the walls. The arterioles vary from 8 to 60 micrometers. The arterioles further subdivide into meta-arterioles.

Capillaries

Capillaries are thin-walled vessels composed of a single endothelial layer. Because of the thin walls of the capillary, the exchange of nutrients and metabolites occurs primarily via diffusion. The arteriolar lumen regulates the flow of blood through the capillaries.

Venules

Venules are the smallest veins and receive blood from capillaries. They also play a role in the exchange of oxygen and nutrients for water products. There are post-capillary sphincters located between the capillaries and venules. The venule is very thin-walled and easily prone to rupture with excessive volume.

Veins

Blood flows from venules into larger veins. Just like the arterial system, three layers make up the vein walls. But unlike the arteries, the venous pressure is low. Veins are thin-walled and are less elastic. This feature permits the veins to hold a very high percentage of the blood in circulation. The venous system can accommodate a large volume of blood at relatively low pressures, a feature termed high capacitance. At any point in time, nearly three-fourths of the circulating blood volume is contained in the venous system. One can also find one-way valves inside veins that allow for blood flow, toward the heart, in a forward direction. Muscle contractions aid the blood flow in the leg veins. The forward blood flow from the lower extremities to the heart is also influenced by respiratory changes that affect pressure gradients in the abdomen and chest cavity. This pressure differential is highest during deep inspiration, but a small pressure differential is observable during the entire respiratory cycle

2.3.8 Nerve Supply

The main control of the heart resides with the medulla oblongata. There is an area called the cardioacceleratory centre, or pressor centre, in the upper part of the medulla oblongata, and an area called the cardioinhibitory centre, or depressor centre, in the lower part. Together they are called the cardioregulatory centre, since they interact to control heart rate, etc.

The nervous supply to the heart is both sympathetic and parasympathetic parts i.e it's autonomic. The sympathetic fibres arise from the pressor centre, while the parasympathetic fibres arise in the depressor centre. See also Vagal Tone

The sympathetic nervous system acts on the sinoatrial node, speeding up the depolarisation rate, and therefore increasing the heart rate. The parasympathetic system works in reverse in order to slow the heart rate down.

The heart itself has a natural pacemaker, the sinoatrial node, which does not need a nervous supply to function. If you sever all the nerves to the heart, then it will continue to beat. In fact, it will beat faster than normal, since there is normally a parasympathetic supply slowing the heart down.

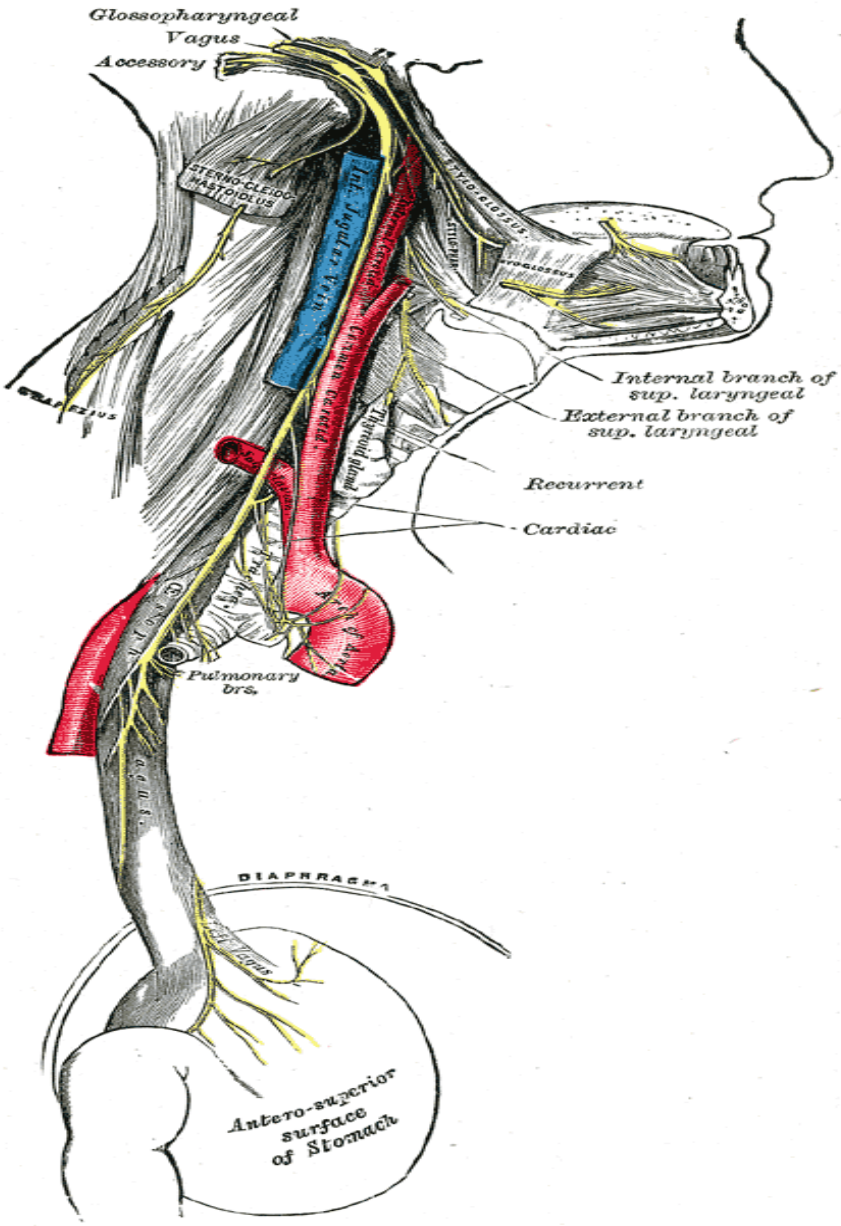

FIG 4. Nerve supply to the heart

2.3.9 Heart Conduction System

An electrical conduction system regulates the pumping of the heart and timing of contraction of various chambers. Heart muscle contracts in response to the electrical stimulus received system generates electrical impulses and conducts them throughout the muscle of the heart, stimulating the heart to contract and pump blood. Among the major elements in the cardiac conduction system are the sinus node, atrioventricular node, and the autonomic nervous system.

The sinus node is the heart's natural pacemaker. The sinus node is a cluster of cells situated in the upper part of the wall of the right atrium. The electrical impulses are generated there. (The sinus node is also called the sinoatrial node.)

The electrical signal generated by the sinus node moves from cell to cell down through the heart until it reaches the atrioventricular node (the AV node), a cluster of cells situated in the center of the heart between the atria and ventricles.

The AV node serves as a gate that slows the electrical current before the signal is permitted to pass down through to the ventricles. This delay ensures that the atria have a chance to fully contract before the ventricles are stimulated. After passing the AV node, the electrical current travels to the ventricles along special fibers embedded in the walls of the lower part of the heart.

The autonomic nervous system (the same part of the nervous system as controls the blood pressure) controls the firing of the sinus node to trigger the start of the cardiac cycle. The autonomic nervous system can transmit a message quickly to the sinus node so it in turn can increase the heart rate to twice normal within only 3 to 5

seconds. This quick response is important during exercise when the heart has to increase its beating speed to keep up with the body's increased demand for oxygen.

2.4 Aetiology

High blood pressure is a common condition that affects the body's arteries. It's also called hypertension. If you have high blood pressure, the force of the blood pushing against the artery walls is consistently too high. The heart has to work harder to pump blood.

Blood pressure is measured in millimeters of mercury (mm Hg). In general, hypertension is a blood pressure reading of 130/80 millimeters of mercury (mm Hg) or higher.

The American College of Cardiology and the American Heart Association divide blood pressure into four general categories. Ideal blood pressure is categorized as normal.

Normal blood pressure. Blood pressure is lower than 120/80 mm Hg.

Elevated blood pressure. The top number ranges from 120 to 129 mm Hg and the bottom number is below, not above, 80 mm Hg.

Blood pressure higher than 180/120 mm Hg is considered a hypertensive emergency or crisis. Seek emergency medical help for anyone with these blood pressure numbers.

Untreated, high blood pressure increases the risk of heart attack, stroke and other serious health problems. It's important to have blood pressure checked at least every two years starting at age 18. Some people need more-frequent checks.

Healthy lifestyle habits such as not smoking, exercising and eating well — can help prevent and treat high blood pressure. Some people need medicine to treat high blood pressure.

Blood pressure is determined by two things: the amount of blood the heart pumps and how hard it is for the blood to move through the arteries. The more blood the heart pumps and the narrower the arteries, the higher the blood pressure.

There are two major types of high blood pressure.

1. Primary Hypertension: Accounts for about 90–95% of cases with no identifiable cause but linked to genetics, diet, stress, obesity, and physical inactivity (Mayo Clinic, 2023).

For most adults, there's no identifiable cause of high blood pressure. This type of high blood pressure is called primary hypertension or essential hypertension. It tends to develop gradually over many years. Plaque buildup in the arteries, called atherosclerosis, increases the risk of high blood pressure.

2. Secondary hypertension: This type of high blood pressure is caused by an underlying condition. It tends to appear suddenly and cause higher blood pressure than does primary hypertension. Conditions and medicines that can lead to secondary hypertension include:

1. Adrenal gland tumors
2. Blood vessel problems present at birth, also called congenital heart defects
3. Cough and cold medicines, some pain relievers, birth control pills, and other prescription drugs
4. Illegal drugs, such as cocaine and amphetamines
5. Kidney disease

High blood pressure has many risk factors, including:

1. Age. The risk of high blood pressure increases with age. Until about age 64, high blood pressure is more common in men. Women are more likely to develop high blood pressure after age 65.
2. Race. High blood pressure is particularly common among Black people. It develops at an earlier age in Black people than it does in white people.
3. Family history. You're more likely to develop high blood pressure if you have a parent or sibling with the condition.
4. Obesity or being overweight. Excess weight causes changes in the blood vessels, the kidneys and other parts of the body. These changes often increase blood pressure. Being overweight or having obesity also raises the risk of heart disease and its risk factors, such as high cholesterol.

5. Lack of exercise. Not exercising can cause weight gain. Increased weight raises the risk of high blood pressure. People who are inactive also tend to have higher heart rates.

6. Tobacco use or vaping. Smoking, chewing tobacco or vaping immediately raises blood pressure for a short while. Tobacco smoking injures blood vessel walls and speeds up the process of hardening of the arteries. If you smoke, ask your care provider for strategies to help you quit.

7. Too much salt. A lot of salt — also called sodium — in the body can cause the body to retain fluid. This increases blood pressure.

8. Low potassium levels. Potassium helps balance the amount of salt in the body's cells. A proper balance of potassium is important for good heart health. Low potassium levels may be due to a lack of potassium in the diet or certain health conditions, including dehydration.

9. Drinking too much alcohol. Alcohol use has been linked with increased blood pressure, particularly in men.

10. Stress. High levels of stress can lead to a temporary increase in blood pressure. Stress-related habits such as eating more, using tobacco or drinking alcohol can lead to further increases in blood pressure.

2.5 Treatment of Hypertension

Many guidelines exist for the management of hypertension. Most groups, including the Seventh Report of the Joint National Committee on Prevention, Detection,

Evaluation, and Treatment of High Blood (JNC), the American Diabetes Associate (ADA), and the ACC/AHA recommend lifestyle modification as the first step in managing hypertension.

2.5.1 Lifestyle Modification

1. To lower BP and decrease cardiovascular disease risk include the following, with greater results achieved when two or more lifestyle modifications are combined.
2. Weight loss (range of approximate SBP reduction, 5-20 mm Hg per 10 kg)
3. Limit alcohol intake to no more than 1 oz (30 mL) of ethanol per day for men or 0.5 oz (15 mL) of ethanol per day for women and people of lighter weight (range of approximate SBP reduction, 2-4 mm Hg)
4. Reduce sodium intake to no more than 100 mmol/day (2.4 g sodium or 6 g sodium chloride; range of approximate SBP reduction, 2-8 mm Hg) [10]
5. Maintain adequate intake of dietary potassium (approximately 90 mmol/day)
6. Maintain adequate intake of dietary calcium and magnesium for general health
7. Stop smoking and reduce intake of dietary saturated fat and cholesterol for overall cardiovascular health
8. Engage in aerobic exercise at least 30 minutes daily for most days (range of approximate SBP reduction, 4-9 mm Hg)
9. The ACC/AHA recommends a diet that is low in sodium, is high in potassium, and promotes the consumption of fruits, vegetables, and low-fat dairy products

for reducing BP and lowering the risk of cardiovascular events. Other recommendations include increasing physical activity (30 minutes or more of moderate intensity activity on a daily basis) and losing weight (persons with overweight and obesity).. (Mackenzie *et al*., 2024).

2.5.2 Pharmacological Treatment

In the guidelines summarized in Figure 8, the WHO provides the most current and relevant evidence-based guidance for the pharmacological treatment of nonpregnant adults with hypertension. The recommendations pertain to adults with an accurate diagnosis of hypertension who have already received lifestyle counseling. The guidelines provide recommendations for a BP threshold to initiate pharmacological therapy, BP treatment targets, intervals for follow-up visits, and best use of health care workers during treatment of hypertension. The guidelines provide guidance for monotherapy, dual therapy, treatment with single-pill combinations, and the use of treatment algorithms for hypertension management. (Akram *et al*., 2021).

FIG 5. W.H.O pharmacological guideline for treatment of hypertention

2.5.3 Physiotherapy Management

The massage technique is a direct skin-to-skin contact therapy to increase the relaxing effect on the body. Massage can be a means of sending signals to the brain to lower blood pressure so that the effects of headaches can decrease. Slow stroke back massage (SSBM) therapy is a method that can be implemented as a method of increasing body relaxation, increasing levels of the hormone of happiness, and decreasing the hormones cortisol, norepinephrine, and dopamine . This therapy can be done by anyone, so it can be implemented independently without medical personnel. (Putra *et al*., 2022).

Physiotherapy also plays a supportive role in managing hypertension by prescribing aerobic exercises such as Walking and cycling. (ACSM, 2021).

How Often Should The Exercise Be?

Moderate activity should be encouraged, e.g brisk walking, at least 30 minutes a day, at least 5 days a week. Vigorous activity, like jogging, gives the same benefit in 20 minutes, 3 to 4 days a week. (WebMD, 2022)

2.6 Analysis of core literature

Author(s) and Year	Focus of Study	Key Findings	Relevance and Limitations
Adeloye *et al*. (2021)	Hypertension prevalence in Nigeria (meta-analysis)	Prevalence increased from 8.6% (1995) to 32.5% (2020)	Strong data set; limited by differing diagnostic criteria
Adeoye *et al*. (2022)	Urbanization and hypertension in Nigeria	Urban lifestyle linked to increased risk	Self-reported data may introduce bias
Akinpelu *et al*. (2023)	Lifestyle factors in Nigerian universities	Diet, alcohol, and inactivity linked to hypertension	Small sample size limits generalizability
Folb *et al*. (2021)	Barriers to hypertension control in Africa	Highlighted cost, adherence, and literacy issues	Broad scope; may overlook local variation
Mills *et al*. (2021)	Global hypertension disparities	Low awareness and control in sub-Saharan Africa	Broad generalization; lacks local specificity
Moloro *et al*. (2023)	Risk factors among African bank workers	Identified BMI, age, and inactivity as key risks	Focuses on urban formal sector; not generalizable
Ogungbe *et al*. (2024)	Implementation of the HTN program in Nigeria	Improved treatment and control rates through team-based care	Limited to pilot states; short-term outcomes
Oladipo *et al*. (2022)	Role of telemedicine in hypertension management	Potential solution to access barriers in rural areas	Findings exploratory and lacking empirical data
Oseni *et al*. (2024)	Impact of community health workers	Improved screening and early detection	Variability in CHW training limits consistency
Putra *et al*. (2022)	Stress and sleep's role in hypertension	High stress linked to elevated blood pressure	Non-African context; limited transferability

CHAPTER THREE

MATERIALS AND METHODS

3.1 Study Participants

The participants of this study are the Nonteaching staffs of Thomas Adewumi University.

3.1.1 Description of study Location

Thomas Adewumi University (TAU), located in Oko, Kwara State, Nigeria, is a privately owned institution licensed by the Federal Government of Nigeria in April 2021. As a non-governmental, non-partisan and non-sectarian entity, TAU is committed to academic excellence. Founded by DeCrown Nigeria Limited, the university is situated in Oko Irese, 6 kilometers from Omu Aran, the headquarters of Irepodun Local Government Area.

3.1.2. Study Population

In this study, the targeted population comprised all the nonteaching staff Thomas Adewumi University, oko irese Kwara State.

Simple random sampling method was used to select the study population

3.1.3 Inclusion Criteria

The study included:

1. Staff of Thomas Adewumi University with no lecturing/teaching duties.

2. Non-teaching staffs of Thomas Adewumi University who give their consent to participate in the research

3.1.4 Exclusion Criteria

1. Teaching staffs of Thomas Adewumi University who have lecturing or teaching duties.
2. Nonteaching staff who did not give their consent to participate in the research.

3.2 Materials / Instruments

1. Questionnaire for the assessment of prevalence of hypertension and associated lifestyle determinants among non-teaching staff at Thomas Adewumi University Oko, Kwara Stat
2. Sphygmomanometer and Stethoscope

3.2.1 Description of Instruments

1. Questionnaire

The questionnaire used in this study is a structured, self-administered tool developed to assess the prevalence of hypertension and its associated lifestyle determinants among non-teaching staff at Thomas Adewumi University. It was adapted from an existing instrument previously used in hypertension and lifestyle research, originally titled “Questionnaire for the Assessment of Inflammatory and Oxidative Stress Markers in Hypertensive Patients,” and modified to suit the specific objectives and context of this study.

The instrument consists of eight main sections, each targeting a different domain relevant to hypertension:

1. Demographic information – including age, gender, marital status, education level, and occupation

2. Medical history – such as past diagnosis of hypertension, duration, family history, and medication use

3. Lifestyle factors – including smoking habits, alcohol consumption, and physical activity levels

4. Dietary habits – addressing meal frequency, fruit and vegetable intake, salt and sugar consumption

5. Stress and sleep patterns – frequency of stress, coping strategies, recent life events, and average sleep hours

6. Medication adherence – frequency of use, experience of side effects, and reasons for missing medication

7. Knowledge and awareness – evaluating participants' understanding of hypertension, its complications, and knowledge of blood pressure targets

The questionnaire items are primarily close-ended and structured using yes/no responses, categorical options, and frequency-based answers. There is no cumulative scoring system; rather, the responses are analyzed as individual variables using descriptive statistics and inferential tests such as chi-square analysis to determine associations with hypertension status.

Although the questionnaire was adapted for this study, its original version has been used in prior research settings. To ensure content relevance and face validity, the modified instrument was reviewed by subject experts and pre-tested among a small group of staff at Thomas Adewumi University. Based on the results, necessary language adjustments were made to ensure clarity. However, psychometric properties such as internal consistency (e.g., Cronbach's alpha) were not formally established, given the largely descriptive nature of the tool and its use of categorical variables rather than composite scales.

2. Sphygmomanometer and Stethoscope

A sphygmomanometer, commonly known as a blood pressure meter or gauge, measures blood pressure by quantifying the force exerted by blood against arterial walls. This device consists of an inflatable cuff, manometer, pump or bulb, valve and gauge. The cuff is wrapped around the upper arm, above the elbow, and inflated to constrict the artery. As the cuff deflates, the manometer measures pressure, allowing for systolic (top number) and diastolic (bottom number) pressure recordings. Accuracy depends on proper cuff size, correct placement, calibrated device and trained operator.

A stethoscope listens to internal body sounds, facilitating cardiac, respiratory, abdominal and vascular examinations. It comprises a chest piece (diaphragm or bell), tubing, earpieces and stem. The chest piece is placed on the body, and sound vibrations travel through the tubing to the earpieces, amplifying sounds for the listener

3.3 Methods

3.3.1 Sampling Technique

The participants of this study were selected using the purposive sampling technique and only those who gave their consent and met the inclusion criteria participated in this study.

3.3.2 Research Design

This study employed a cross sectional descriptive design.

3.3.3 Sample Size Determination

To determine the appropriate sample size for this study, the Taro Yamane formula was used. This formula is widely accepted for calculating sample size from a finite population and is expressed as follows:

$n = N / (1 + N * e^2)$

Where:

- n = required sample size
- N = total population size
- e = margin of error (precision level), which is typically 0.05 for 95% confidence level

Assuming a target population size (N) of approximately 111 and a precision level of 5% (e = 0.05), the sample size is calculated as follows:

$n = 111 / (1 + 111 * 0.05^2)$

$n = 111 / (1 + 111 * 0.0025)$

$n = 111 / (1 + 0.2775)$

$n = 111 / 1.2775$

$n \approx 86.91$

Therefore, the required sample size is approximately:

$n = 87$

3.3.4. Ethical Consideration

Ethical approval was sought and obtained from the Ethics and Research Committee of University of Ilorin Teaching Hospital, Kwara State. The specific aim and objective of this study was clearly explained to all participant, there was also assurance of confidentiality of their response and all information obtained to be purely used for research purposes only.

3.3.5 Data Collection Procedure

After ethical approval and signed informed consent form of the study was obtained. Data collection procedure commenced with staff members who met the inclusion criteria and gave their informed consent as they were given an adopted questionnaire. Data was collected from participants who responded freely, without any pressure, and guaranteed confidentiality of their responses.

3.4. Data Analysis

The data was analyzed using statistical package for the social sciences (SPSS) version 25.0, inferential statistics and was summarized using descriptive statistics of mean, median and standard deviation.

CHAPTER FOUR

RESULTS

4.1 INTRODUCION

This chapter presents the results of the study conducted to assess the prevalence and associated lifestyle determinants of hypertension among non-teaching staff at Thomas Adewumi University, Oko, Kwara State. A total of 87 structured questionnaires were distributed, all of which were properly completed and returned, resulting in a 100% response rate. The data collected included socio-demographic characteristics, medical history, lifestyle factors, stress levels, and awareness of hypertension-related risks.

4.2 SOCIO-DEMOGRAPHIC VARIABLES

Table 1 shows the socio-demographic characteristics of the study participants. A majority of participants 40(45.8%) were within the age group of 33 years and above, followed closely by 27–32 years' age bracket with a representation of 34(39.6%) and the least represented been the 21-26 age group with a representation of 13(14.6%). There were more Male respondent 46(53.2%) than Female 40(45.5%) with 1(1.4%) participant prefering nit to disclose their gender.

A majority of participants 72(83.8%) were married, a few 11(12.2%) were single and 2(2.0%) reported been divorced with most 70(80.5%) having received tertiary education .

The occupational distribution reveals water factory employment workers having the highest representation 20 (21.51%), of participants followed closely by Cafeteria staff with 16 (17.20%) individuals, the least represented population was among the Workshop staff and solider with 3(3.23%) individual each followed by secretaries and sales girls with a representation of 2(2.15%) respectively.

Table 2: Frequency Counts and Percentage Analysis of Demographic Data of Respondents (n=87)

S/N	VARIABLES	FREQUENCY	PERCENTAGE (%)
1.	**Age range**		
	21-26 years old	13	14.6
	27-32 years old	34	39.6
	33 years old and above	40	45.8
2.	**Gender**		
	Male	46	53.2
	Female	40	45.4
	Prefer not to say	1	1.4
3.	**Marital Status**		
	Single	11	12.2
	Married	72	83.8
	Divorced	2	2.0
	Widowed	2	2.0
4.	**Educational**		
	No formal education	0	0.0
	Primary	2	2.0
	Secondary	15	16.5
	Tertiary	70	80.5
5.	**Occupation**		
	Engineer	6	6.45
	Workshop staffs	3	3.23
	Cleaner	13	13.98
	Security	7	7.53
	Sales girl	2	2.15
	Cafeteria staffs	16	17.20
	Secretary	2	2.15
	Accountant	4	4.30
	Soldier	3	3.23
	Water factory staffs	20	21.51
	Bursary staffs	5	5.38
	Driver	6	6.45

4.3. HYPERTENSION PREVALENCE USING STANDARDIZED HEALTH ASSESSMENT TOOLS AMONG THE STUDY POPULATION

As illustrated in Table 2, the prevalence of hypertension among the study population revealed distinct patterns based on diagnosis, duration, family history, and medication usage. A total of 28 individuals (32.2%) reported having been diagnosed with hypertension, while the majority of 59 individuals (67.8%) indicated no formal diagnosis. Among those diagnosed, 12 individuals (42.9%) had been living with the condition for 1–5 years, 10 individuals (35.7%) for more than 5 years, and 6 individuals (21.4%) for less than 1 year, demonstrating that a significant portion of hypertensive respondents had longstanding exposure to the condition. Additionally, 34 individuals (39.1%) indicated a family history of hypertension, further emphasizing potential hereditary risk, while 25 individuals (28.7%) reported currently using antihypertensive medications. These findings indicate that there is a moderate prevalence of hypertension within the study population, supported by both personal and familial histories, although a majority remain undiagnosed or untreated through medication.

4.3.1 HYPERTENSION PREVALENCE AND LIFESTYLE DETERMINANTS AMONG THE STUDY POPULATION

In Table 2, the prevalence of hypertension among the study population, as indicated by 28 individuals (32.2%) reporting a diagnosis, appears to be influenced by several related factors in the dataset. A notable 34 individuals (39.1%) acknowledged a family history of hypertension, suggesting a genetic predisposition. Despite the diagnosis rate, only 25 participants (28.7%) reported being on antihypertensive medication, indicating possible gaps in treatment adherence or accessibility. Furthermore, 59 participants (67.8%) denied having hypertension, though the presence of high-risk factors such as smoking (19 individuals, 21.8%), alcohol consumption (33 individuals, 37.9%), and low exercise levels, 38 individuals (43.7%) never exercised, suggesting underdiagnosis. The findings imply that while hypertension is moderately prevalent, related lifestyle determinants potentially place a larger portion of the population at risk.

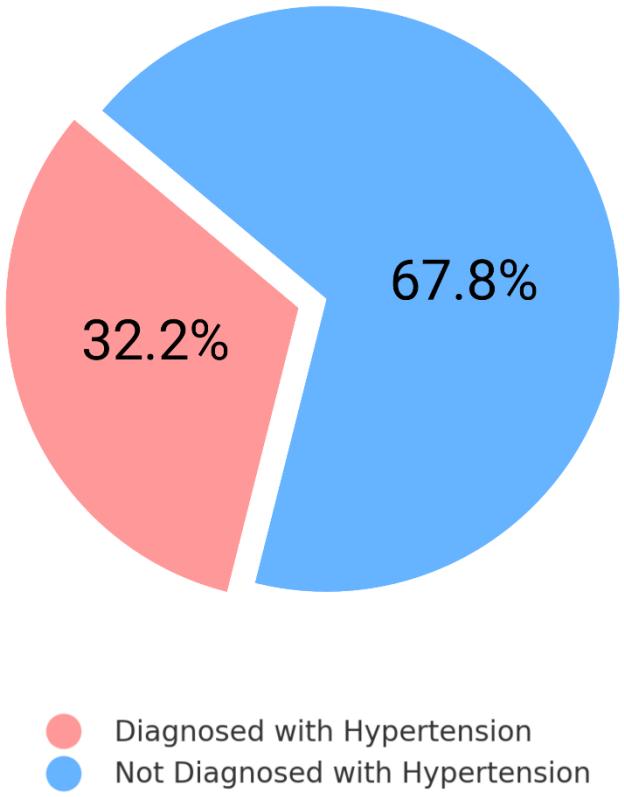

FIG 6: Pie chart of the prevalence of hypertension among study population

Table 3: Hypertension Prevalence and Lifestyle Determinants among the Study Population

S/N	Items	Response	Frequency	Percentage (%)
	Medical History			
1.	Diagnosed with hypertension	Yes	28	32.2
		No	59	67.8
2.	Duration since diagnosis (only for those diagnosed)	<1 year	6	21.4
		1–5 years	12	42.9
		>5 years	10	35.7
3.	Family history of hypertension	Yes	34	39.1
		No	53	60.9
4.	Currently on antihypertensive medication	Yes	25	28.7
		No	62	71.3
	Lifestyle Factors			
5.	Smoking habit	Yes	19	21.8
		No	68	78.2
6.	Alcohol consumption	Yes	33	37.9
		No	54	62.1
7.	Frequency of alcohol intake (only for those who consume alcohol)	Occasionally	17	51.5
		Weekly	10	30.3
		Daily	6	18.2
8.	Exercise frequency	Never	38	43.7
		Occasionally	31	35.6
		Regularly	18	20.7
	Dietary Habits			
9.	Number of meals per day	1	3	3.4
		2	18	20.7
		3	42	48.3
		More than 3	24	27.6
10.	Consume fruits and vegetables daily	Yes	37	42.5
		No	50	57.5
11.	Frequency of eating high-salt foods	Rarely	21	24.1
		Occasionally	26	29.9
		Frequently	40	46.0
12.	Consume sugary drinks or snacks	Yes	55	63.2
		No	32	36.8
13.	Frequency of sugary intake (only for those who consume sugar)	Occasionally	23	41.8

		Weekly	18	32.7
		Daily	14	25.5
	Stress and Sleep Patterns			
14.	Hours of sleep per night	<4	10	11.5
		4–6	33	37.9
		7–8	31	35.6
		>8	13	14.9
15.	Feel stressed often	Yes	52	59.8
		No	35	40.2
16.	Experienced significant life changes recently	Yes	48	55.2
		No	39	44.8
17.	Take prescribed medications regularly	Yes	29	33.3
		No	58	66.7
18.	Reasons for irregular medication use (only for those not regular)	Forgetfulness	22	37.9
		Side effects	18	31.0
		Cost	12	20.7
		Other	6	10.4
19.	Experience side effects from medication	Yes	26	29.9
		No	61	70.1
	Knowledge and Awareness			
20.	Aware of complications of untreated hypertension	Yes	36	41.4
		No	51	58.6
21.	Received counseling on hypertension management	Yes	28	32.2
		No	59	67.8
22.	Source of counseling (only for those counseled)	Doctor	14	50.0
		Nurse	7	25.0
		Pharmacist	5	17.9
		Other	2	7.1
23.	Know target blood pressure range	Yes	33	37.9
		No	54	62.1

4.4 Association Between Stress Level and Physical Activities at Work, and Hypertension

The association between stress and hypertension, as seen in Table 4, shows a statistically significant relationship ($X^2 = 4.892$, df = 1, P = 0.027). Among the 52 individuals who reported feeling stressed often, 21 (40.4%) were hypertensive, compared to just 7 (20.0%) among the 35 who did not report frequent stress. This indicates that individuals experiencing higher levels of stress are more prone to hypertension.

In Table 5, the analysis of physical activity and hypertension also shows a significant association ($X^2 = 6.317$, df = 2, P = 0.042). Hypertension was most common among those who never exercised, with 18 out of 38 individuals (47.4%) affected. The rate decreased among those who exercised occasionally (7 of 31; 22.6%) and regularly (3 of 18; 16.7%). These findings indicate that increased frequency of physical activity is associated with lower rates of hypertension.

Table 4: Association Between Stress Level and Hypertension

Stress Level	Hypertensive (Yes)	Non-Hypertensive (No)	Total
Feels stressed often	21	31	52
Does not feel stressed	7	28	35
Total	**28**	**59**	**87**

Chi-square (X^2) = 4.892 df = 1 P-value = 0.027

Table 5: Association Between Physical Activities at Work and Hypertension

Exercise Frequency	Hypertensive (Yes)	Non-Hypertensive (No)	Total
Never	18	20	38
Occasionally	7	24	31
Regularly	3	15	18
Total	**28**	**59**	**87**

Chi-square (X^2) = 6.317 df = 2 P-value = 0.042

4.5: IMPACT ON THE QUALITY OF LIFE AND DAILY FUNCTIONING OF THE STUDY POPULATION.

Table 6 shows a calculated chi-square value of 7.63, which exceeds the critical/table value of 5.99 at 2 degrees of freedom and 0.05 alpha level. Since the calculated value is greater than the critical value, there is a statistically significant association. This result implies that hypertension has a measurable impact on the quality of life and daily functioning of individuals in the study population.

Table 6: Chi-square (χ^2) Results of Impact of Hypertension on Quality of Life and Daily Functioning

Item	**N**	**Df**	**Calculated χ^2 Value**	**Critical/Table χ^2 Value**	**P-value**
Hypertension and Impact on Quality of Life and Daily Functioning	87	2	7.63	5.99	0.022

@0.05 alpha level

$X^2 = 7.63$ df = 2 P = 0.022

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 DISCUSSION

This study investigated the prevalence and associated lifestyle determinants of hypertension among non-teaching staff at Thomas Adewumi University. The findings revealed that 32.2% of the respondents had been diagnosed with hypertension, which aligns with national data indicating a rising burden of hypertension in semi-urban and institutional populations. This is consistent with previous studies by Adeloye *et al*. (2021) and Azuka *et al*. (2024), which reported similar prevalence rates ranging from 32% to 38% across various Nigerian cohorts.

A significant number of participants (67.8%) reported not having hypertension, although many exhibited risk factors such as physical inactivity, alcohol consumption, high salt intake, and elevated stress levels. This suggests a likely underdiagnoses or lack of awareness, as many individuals may remain unaware of their hypertensive status due to limited access to routine health screening. Similar patterns have been observed in studies where awareness, treatment, and control rates remain disproportionately low compared to disease burden (Ogungbe *et al*., 2024).

Lifestyle determinants played a notable role in the prevalence of hypertension among the respondents. A substantial 43.7% of participants reported never engaging in exercise, and 37.9% admitted to regular alcohol intake. These findings support the evidence that modifiable behavioral factors—including poor dietary habits, lack

of physical activity, and substance use—significantly contribute to the development of hypertension, as established in studies by Akinpelu *et al*. (2023) and Putra *et al*. (2022). The high rate of family history (39.1%) also indicates a genetic predisposition, further emphasizing the need for targeted screening among high-risk individuals.

The study also found a statistically significant association between stress levels and hypertension ($p = 0.027$), as well as between physical activity levels and hypertension ($p = 0.042$). These results highlight the impact of occupational and psychosocial stress on cardiovascular health, particularly in university staff who may face demanding schedules and limited rest periods. The strong association between stress and hypertension mirrors findings by Oluwabunmi Ogungbe *et al*. (2024), who noted that chronic stress remains one of the least addressed yet most critical factors in blood pressure regulation.

Furthermore, the data showed that hypertension negatively impacted the quality of life and daily functioning of affected individuals ($p = 0.022$). This reflects the broader impact of non-communicable diseases not only on physical health but also on productivity, mental well-being, and social engagement. The implications for workplace health policies are substantial, suggesting that preventive measures such as employee wellness programs, stress reduction workshops, and lifestyle counseling could play a pivotal role in improving long-term outcomes.

5.2 CONCLUSION

This study found that 32.2% of non-teaching staff at Thomas Adewumi University were diagnosed with hypertension, with the highest prevalence occurring among individuals aged 33 years and above, while the lowest rates were seen among the youngest age group, with key contributing factors including stress, physical inactivity, and unhealthy lifestyle habits. The findings also revealed low levels of treatment and awareness, underscoring gaps in screening and health education.

5.3 RECOMMENDATION

Based on the findings from the study, the following recommendations were made:

1. The university health unit should implement routine blood pressure screening to aid early detection and management of hypertension among staff.
2. Stress management workshops should be organized periodically to help staff cope with occupational and personal stressors.
3. Health education campaigns should be conducted to improve awareness of hypertension risk factors and promote adherence to lifestyle modifications.

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APPENDIX A

INFORMED CONSENT

Dear Sir/Ma,

I am OYEYEMI DAVID OPEYEMI, a 500 level student of the department of physiotherapy, faculty of basic clinical sciences, Thomas Adewumi University. I am conducting undergraduate research titled "Prevalence of Hypertension and Associated Lifestyle Determinants among Non-Teaching Staff at Thomas Adewumi University, Oko, Kwara State". This research is being carried out as part of the requirements for the award of Bachelor of Physiotherapy degree of the Faculty of Basic Clinical Sciences, Thomas Adewumi University, Oko, Kwara State, Nigeria.

You will be required to fill a set of questionnaires which will take 5-10min to complete. This to evaluate the prevalence of high blood pressure and understand how personal lifestyle factors contribute to hypertension. Your participation in this research is voluntary and won't cost you any money. Data obtained from this study will be used ONLY for this research purpose and will be treated with utmost confidentiality. I will be grateful for your help in completing the questionnaires and participation in this study.

Thank you for your anticipated participation in this study.

_____

Researcher's Signature/Date

Participant's Signature Date

APPENDIX B

QUESTIONNAIRE FOR THE ASSESSMENT OF PREVALANCE OF HYPERTENSION AND ASSOCIATED LIFESTYLE DETRMINANTS AMONG NON-TEACHING STAFF AT THOMAS ADEWUMI UNIVERSITY OKO, KWARA STATE

Principal Investigator:

Section 1: Demographic Information

1. Age (in years): _____
2. Gender: [ ] Male [ ] Female [ ] Prefer not to say
3. Marital Status: [ ] Single [ ] Married [ ] Divorced [ ] Widowed
4. Educational Level: [ ] No formal education [ ] Primary [ ] Secondary [ ] Tertiary
5. Occupation: _____

Section 2: Medical History

6. Have you been diagnosed with hypertension? [ ] Yes [ ] No
7. If yes, how long ago were you diagnosed? [ ] <1 year [ ] 1-5 years [ ] >5 years
8. Do you have a family history of hypertension? [ ] Yes [ ] No
9. Are you currently on antihypertensive medication? [ ] Yes [ ] No
10. If yes, specify the medication(s): _____

Section 3: Lifestyle Factors

11. Do you smoke? [ ] Yes [ ] No
12. If yes, how many cigarettes per day? _____
13. Do you consume alcohol? [ ] Yes [ ] No
14. If yes, how often? [ ] Occasionally [ ] Weekly [ ] Daily
15. How often do you exercise? [ ] Never [ ] Occasionally [ ] Regularly
16. What type of exercise do you engage in? _____

Section 4: Dietary Habits

17. How many meals do you eat per day? [ ] 1 [ ] 2 [ ] 3 [ ] More than 3
18. Do you consume fruits and vegetables daily? [ ] Yes [ ] No
19. How often do you eat high-salt foods? [ ] Rarely [ ] Occasionally [ ] Frequently
20. Do you consume sugary drinks or snacks? [ ] Yes [ ] No
21. If yes, how often? [ ] Occasionally [ ] Weekly [ ] Daily

Section 5: Stress and Sleep Patterns

22. How many hours of sleep do you get per night? [ ] <4 [ ] 4-6 [ ] 7-8 [ ] >8
23. Do you often feel stressed? [ ] Yes [ ] No
24. How do you manage stress? _____
25. Have you experienced significant life changes recently? [ ] Yes [ ] No
26. If yes, please specify: _____

Section 7: Medication Adherence

27. Do you take your prescribed medications regularly? [ ] Yes [ ] No
28. If no, what are the reasons? [ ] Forgetfulness [ ] Side effects [ ] Cost [ ] Other: _____
29. Do you experience any side effects from your medications? [ ] Yes [ ] No
30. If yes, please describe: _____

Section 8: Knowledge and Awareness

31. Are you aware of the complications of untreated hypertension? [ ] Yes [ ] No
32. Have you received any counseling on hypertension management? [ ] Yes [ ] No

33. If yes, who provided the counseling? [ ] Doctor [ ] Nurse [ ] Pharmacist [ ] Other: _____
34. Do you know your target blood pressure range? [ ] Yes [ ] No

APPENDIX C

ETHICAL APPROVAL

UNIVERSITY OF ILORIN TEACHING HOSPITAL

Chairman:

Chief Medical Director:
PROF. YUSSUF ABDULLAH D.
(MB; BS., FMC Psych., Cert. Health Plan. & Mgt., Cert. Health Inform. Mgt., MCH, FIIA, FAPA, FCAI)

Ag. Chairman, Medical Advisory Committee:
PROF. BILIAMINU S.A.
MB; BS., (Ilorin), FMCPath;
Cert. in Clin. Embryology (Chennai).

Director of Administration:
MR. A.F. AGBANA
B.Sc., M.Sc., FCAI, MACHE, MIHM, AHAN.

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Our Ref: UITH/CAT/189/VOL.21/836

Date: 26/11/2024

Oyeyemi David Opeyemi
Dept. of Physiotherapy,
Faculty of Health Sciences,
Thomas Adewumi University
Oko
Kwara State.

APPROVAL TO COLLECT DATA FROM THE HOSPITAL

Please refer to your application on the above subject matter.

I am directed to convey Management's approval of your request to collect data from the Hospital. You are please requested to use the data strictly for the purpose stated in your application.

Dr. Akinwale is to give close supervision to this study.

Thank you.

APPENDIX D
RAW DATA SHEET

Frequencies

[DataSet1] C:\Users\USER\Documents\David_Analysis Analysis.sav

A1

Age Range	Frequency	Percent	Valid Percent	Cumulative Percent
21–26 years old	13	14.6	14.0	14.0
27–32 years old	34	39.6	39.0	53.0
33 years and above	40	45.8	47.0	100.0
Total	87	100.0	100.0	

A2

Gender	Frequency	Percent	Valid Percent	Cumulative Percent
Male	46	53.2	53.0	53.0
Female	40	45.4	46.0	99.0
Prefer not to say	1	1.4	1.0	100.0
Total	87	100.0	100.0	

A3

Marital Status	Frequency	Percent	Valid Percent	Cumulative Percent
Single	11	12.2	13.0	13.0
Married	72	83.8	83.0	96.0
Divorced	2	2.0	2.0	98.0
Widowed	2	2.0	2.0	100.0

Total	87	100.0	100.0	

A4

Educational Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
No formal education	0	0.0	0.0	0.0
Primary	2	2.0	2.0	2.0
Secondary	15	16.5	17.0	19.0
Tertiary	70	80.5	81.0	100.0
Total	87	100.0	100.0	

A5

Occupation	Frequency	Percent	Valid Percent	Cumulative Percent
Engineer	6	7.45	7.0	7.0
Cleaner	13	13.98	14.0	21.0
Workshop staffs	3	3.23	3.0	24.0
Security	7	7.53	8.0	32.0
Sales girl	2	3.15	3.0	35.0
Bursary staff	5	5.38	5.0	40.0
Secretary	2	3.15	3.0	43.0
Accountant	4	4.30	4.0	47.0
Soldier	3	3.23	3.0	50.0

Water factory staff	20	25.5	26.0	76.0
Cafeteria staff	16	17.2	17.0	93.0
Driver	6	7.45	7.0	100.0
Total	87	100.0	100.0	

B

Item	Response	Frequency	Percent	Valid Percent	Cumulative Percent
Diagnosed with hypertension	Yes	28	32.2	32.0	32.0
	No	59	67.8	68.0	100.0
Duration since diagnosis	<1 year	6	21.4	21.0	21.0
	1–5 years	12	42.9	43.0	64.0
	>5 years	10	35.7	36.0	100.0
Family history of hypertension	Yes	34	39.1	39.0	39.0
	No	53	60.9	61.0	100.0
Currently on antihypertensive medication	Yes	25	28.7	29.0	29.0
	No	62	71.3	71.0	100.0
Smoking habit	Yes	19	21.8	22.0	22.0
	No	68	78.2	78.0	100.0
Alcohol consumption	Yes	33	37.9	38.0	38.0
	No	54	62.1	62.0	100.0
Frequency of alcohol intake	Occasionally	17	51.5	52.0	52.0
	Weekly	10	30.3	30.0	82.0

	Daily	6	18.2	18.0	100.0
Exercise frequency	Never	38	43.7	44.0	44.0
	Occasionally	31	35.6	36.0	80.0
	Regularly	18	20.7	20.0	100.0
Number of meals per day	1	3	3.4	3.0	3.0
	2	18	20.7	21.0	24.0
	3	42	48.3	48.0	72.0
	More than 3	24	27.6	28.0	100.0
Consume fruits and vegetables daily	Yes	37	42.5	43.0	43.0
	No	50	57.5	57.0	100.0
Frequency of eating high-salt foods	Rarely	21	24.1	24.0	24.0
	Occasionally	26	29.9	30.0	54.0
	Frequently	40	46.0	46.0	100.0
Consume sugary drinks or snacks	Yes	55	63.2	63.0	63.0
	No	32	36.8	37.0	100.0
Frequency of sugary intake	Occasionally	23	41.8	42.0	42.0
	Weekly	18	32.7	33.0	75.0
	Daily	14	25.5	25.0	100.0
Hours of sleep per night	<4	10	11.5	12.0	12.0
	4–6	33	37.9	38.0	50.0
	7–8	31	35.6	36.0	86.0
	>8	13	14.9	14.0	100.0

Feel stressed often	Yes	52	59.8	60.0	60.0
	No	35	40.2	40.0	100.0
Experienced significant life changes	Yes	48	55.2	55.0	55.0
	No	39	44.8	45.0	100.0
Take prescribed medications regularly	Yes	29	33.3	33.0	33.0
	No	58	66.7	67.0	100.0
Reasons for irregular medication use	Forgetfulness	22	37.9	38.0	38.0
	Side effects	18	31.0	31.0	69.0
	Cost	12	20.7	21.0	90.0
	Other	6	10.4	10.0	100.0
Experience side effects from medication	Yes	26	29.9	30.0	30.0
	No	61	70.1	70.0	100.0
Aware of complications of hypertension	Yes	36	41.4	41.0	41.0
	No	51	58.6	59.0	100.0
Received counseling on hypertension	Yes	28	32.2	32.0	32.0
	No	59	67.8	68.0	100.0
Source of counseling	Doctor	14	50.0	50.0	50.0
	Nurse	7	25.0	25.0	75.0
	Pharmacist	5	17.9	18.0	93.0

	Other	2	7.1	7.0	100.0
Know target blood pressure range	Yes	33	37.9	38.0	38.0
	No	54	62.1	62.0	100.0

Chi-Square Analysis

Chi-Square Test

Test Statistics

	SUM A	SUM B	SUM C
Chi-Square	4.8917[a]	6.3174[b]	7.6327[c]
df	1	2	2
Asymp. Sig.	.027	0.042	0.022