# Effective Health Education as a Means of Ameliorating the Health Risks Associated With Hypertension

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**Abstract**

*The paper examined effective health education as a means of ameliorating the risks associated with hypertension. Experts in the field of medicine, health education, human kinetics and the medical world had discovered long ago that effective health education could help to ameliorate the health risks associated with hypertension. Hypertension is a symptomless disease that kills faster than expected. It is characterized by subtle symptoms that often go undetected or unnoticed. This paper looked into the concept of hypertension, causes, clinical features associated health risks and the preventive measures against hypertension were clearly highlighted which includes change of lifestyle, nutrition education and regular exercise. The paper recommended mass literacy campaigns and formation of hypertension clubs.*

**Keyword:** Hypertension, ameliorating, health risks, health education, effective

## Introduction

The world today is plagued with many health challenges. The upsurges of these silent killer diseases tend to make the world a more difficult place to live in. Despite all the exploits that had been witnessed in the field of science, these diseases still threaten the existence of man on earth. The morbidity and mortality rate are increasing on daily basis. This terrible disease has power to destroy the body without remedy. With the control of communicable diseases and increase in life expectancy, the incidence of these chronic diseases is rising at an alarming rate. In the list of these silent killer diseases are; hypertension, diabetes, congestive cardiac failure, stroke and lots more. For the purpose of this paper only hypertension would be considered.

Hypertension is a condition in which the forces of the blood against the artery wall are too high. Hypertension also known as High blood pressure is a long term medical condition in which the blood pressures in the arteries are persistently elevated. High blood pressure is called silent killer disease because it is asymptomatic and a common condition in which the long term force of the blood against the artery wall is high enough that it may eventually cause health problems such as heart disease. Lucas and Gilles (2006). The best means to determine whether a person is hypertensive is through measuring of the blood pressure.

Blood pressure is the force exerted by the blood against the walls of the arteries as the heart pumps blood through the body. Blood pressure is determined both by the amount of blood the heart pumps and the amount of resistance to blood flow in the arteries. The more blood the heart pumps, the narrower the arteries and the higher the blood pressure will be. Arteries are the blood vessels that carry oxygenated blood from the heart

to the body tissues. The heart is the organ that pumps blood round the body. Oluwayemi(2010) posited that the heart as a pumping organ must never stop working as long as life continues. The heart beats for about one hundred thousand times per day to pump oxygen and nutrients round the body through the blood vessels. The blood vessels are the pipelines that carry blood from the heart to supply the body with oxygen, glucose and other nutrients. They also return the blood to the heart through the portal vein. These blood vessels are the arteries, veins and blood capillaries. Arteries are the major blood vessels affected with hypertension because they carry oxygenated blood from the heart to all parts of the body. The veins carry de-oxygenated blood back to the heart for purification while the capillaries are the blood vessels that connect the arteries to the veins. The primary function of smallest capillaries is the exchange of materials between the blood and tissue cells.

Babalola (2011) discovered that as blood flows through the arteries, it pushes against the inside of the artery walls. The more pressure the blood exerts on the artery walls, the higher the blood pressure will be. Blood pressure is highest when the heart beats to push blood out unto the arteries. When the heart relaxes to fill with blood again, the pressure is at its lowest point. Blood pressure when the heart beats is called systolic pressure while it is called diastolic pressure when the heart is at rest. It is measured in millimeters of mercury (mmHg). When blood pressure is measured, the systolic pressure is stated first and the diastolic pressure second. For example, if a person systolic pressure is 120 and diastolic pressure is 80, it is written as 120/80 mmHg.

**Concept of Hypertension**

Hypertension is a silent killer disease and a major health problem because usually it has no symptom. Many people have hypertension without knowing it. Hypertension is more common in people over the age of 60 than in younger persons. Hypertension is serious because people with the condition have a higher risk of heart disease and other medical problems than people with normal blood pressure. Serious complications could be avoided by getting regular blood pressure checks and treating hypertension as soon as it is diagnosed. High blood pressure can be in a patient for years without notice and without symptoms. Despite the fact that it goes without symptoms, damage to blood vessels and heart continues. Uncontrolled high blood pressure increases the risk of serious heart problems including heart attack, stroke, and congestive cardiac failure. These are the first and commonest causes of death in a developing country like Nigeria. Hypertension can also damage the kidneys and increase the risk of blindness and dementia. This is why hypertension also known as high blood pressure is referred to as a silent killer disease.

A healthy person is a wealthy person while a healthy nation is termed a wealthy nation. Nigeria needs to be healthy so as to raise his head up among the comity of healthy nations. The extent to which health conditions can be improved depends on the peoples' knowledge and attitude towards health practices. The only means of providing this knowledge on health and health related matters to the masses is through effective health education.

Moronkola and Okanlawon (2003) asserted that effective health education empowers the consumers in the community to manage their own health process effectively and to cope

with social and economic challenges arising from illnesses and diseases. Preservation of good health depends upon adopting healthy practices and avoiding harmful and dangerous practices that could jeopardize our health.

Otinwa (2005) posited that health education gears towards behaviour change. This change can be achieved by making people whether literate or illiterate to understand and feel the need to do so regardless of the nature of the problem, the health outcomes depends to a large extent on the individual's ability to make positive health decision in the area of personal hygiene, environmental hygiene, stress management, food consumption and lifestyle. The way people handle sickness is another factor in health care leading to rapid multiplication of these terrible sickness in the society. The idea of seeking medical advice early by the clients and their relatives is always the last resort as they will initially neglect the symptoms and when the problems become aggravated, they might choose to get treatment at home, from traditional healers or spiritualist before consulting medical experts. Often times the morbidity and mortality rate of these terrible diseases increased because of this.

Hypertension is a common cardiovascular disease frequently occurring both in the developing and developed countries. Basavantappa (2013) described hypertension as a ubiquitous health problem and many people suffer from it in most countries. Studies have shown that about 1.5million cases are seen per year in Nigeria. Hypertension is also defined as a systolic blood pressure equal to or greater than 140mmHg and/or diastolic pressure equal to or greater than 95mmHg. There are two types of hypertension; primary or essential hypertension and secondary hypertension.

**Primary or Essential Hypertension** is the high blood pressure that has no known underlying cause. It is the most common form of hypertension which usually occurs in 90% of those with hypertension and a high risk factor for coronary heart disease. Essential hypertension is more frequent among elderly persons of 60 years and above.

**Secondary Hypertension:** This is persistently elevated blood pressure which occurs from several conditions such as coarctation of the aorta, narrowing of one or both renal arteries, diabetes, toxaemia of pregnancy and from the use of oral contraception and oestrogen therapy. Obesity and excessive alcohol consumption also contribute to secondary hypertension. Some people have high blood pressure caused by an underlying disease condition.

Secondary hypertension tends to appear suddenly and causes high increase in blood pressure than primary hypertension. Various condition and medications can lead to secondary hypertension including:

- Obstructive sleep apnoea
- Kidney problems e.g Renal artery stenosis
- Adrenal gland tumours
- Hyperthyroidism
- Congenital disease of the blood vessels e.g. coarctation of the aorta.
- Certain medications such as birth control pills, corticosteroids etc
- Recreational drugs e.g. cocaine and amphetamine

**Causes of Hypertension**

Oluwayemi (2010) posited that in more than 95% of cases, a specific

underlying cause of hypertension cannot be found. Such clients are said to have essential hypertension. Here the actual mechanism which explains why the blood pressure is high has to do with some pathological process in the body that leads to narrowing of small blood vessels called arterioles which are in all the tissues of the body. Oluwayemi explained further that these arterioles are small and when they become constricted they get smaller resulting into marked decrease in the volume of blood flowing to the parts of the body being supplied. Sometimes, these arterioles may be completely blocked.

Hypertension varies within communities and might have association with the socioeconomic background of the client and old age. Basavanthappa (2013) summed up a number of factors responsible for increasing the level of blood pressure as heredity, weight increase/obesity, increased salt intake, stress, physical inactivity, long term exposure to adverse psychological factors. Parveen and Michael (2002) asserted that essential hypertension has a multifactorial aetiology which includes:

1. ***Age***: The risk of hypertension increases with age.People from 60-64 years of age are mostly susceptible but at times young adults could be affected.
2. ***Sex***: High blood pressure has been found to be commoner in men. However, women are more likely to develop hypertension after the age of 65years.
3. ***Race***: Hypertension is particularly common among people of African heritage which develops at an earlier age. Serious complications such as stroke, heart attack and kidney failure are commoner in people of African heritage.
4. ***Genetic factors***: Hypertension tends to run in families and children of hypertensive parents tend to have higher blood pressure than age-matched children of parents with normal blood pressure.
5. ***Overweight or Obesity***: Adedoyin (2017) discovered that the more your weight, the more blood you need to supply oxygen and nutrients to your tissues. As the volume of blood circulated through the body increases so does the pressure on the walls of the arteries increases and hence the risk of developing hypertension.
6. ***Pregnancy***: Some women tend to develop high blood pressure in pregnancy; this is called pregnancy-induced hypertension (PIH). The high blood pressure occurs during pregnancy and terminates at the end of pregnancy. PIH is usually detected during regular blood pressure check in antenatal clinic. The doctors and nurses will put the pregnant woman under close blood pressure monitoring to avert the health risks associated with high blood pressure during pregnancy which includes pre-eclampsia, eclampsia, foetal death and maternal death.
7. ***Lack of physical exercise***: The people who are inactive tend to have higher heart rates. The higher the heart rate, the harder the heart will work with each heartbeat. Lack of physical activity also increases the risk of being overweight. Adedoyin (2017) asserted that the World Health Organization estimated that about 2 million deaths per year could be attributed to physical inactivity, making physical inactivity one of the

leading global health challenges. Physical inactivity increases the risk of obesity and hypertension.

8. ***Inadequate potassium in the diet***: Potassium helps to balance the amount of sodium in the cells. Lack of enough potassium in the diet may lead to accumulation of too much sodium in the blood.
9. ***Alcohol Intake***: Studies have shown a close relationship between consumption of alcohol and high blood pressure level. However, those who consume small amount of alcohol have lower blood pressure than those who consume excessive alcohol.
10. ***High SaltIntake***: Kumar and Clark (2002) discovered that a high sodium intake has been suggested to be a major determinant of high blood pressure because it can cause the body to retain fluid which leads to hypertension. It was discovered that populations with higher sodium intake have higher average blood pressure than those with lower sodium intake.
11. ***Stress***: Acute pain and stress can raise the blood pressure. Though the relationship between stress and high blood pressure is uncertain, it was discovered that chronic pains and stress could cause high blood pressure.

**Clinical Features of Hypertension**

Essential hypertension is asymptomatic until its complications develop. In secondary hypertension, most cases do not usually give any specific symptoms. The usual symptoms often encountered are: sub occipital headache, dizziness, flushed face, trembling, nausea and vomiting, epistaxis (bleeding from the nose), muscular weakness, tinnitus, palpitation, nervousness, irritability and polyuria (increased volume of urine).Longstanding cases can give rise to signs and symptoms of left ventricular hypertrophy, angina pectoris, myocardial infarction or stroke.

**Diagnosis**

A diagnosis of hypertension is made if there is elevated blood pressure ≥140/90mmHg on two different occasions measured about 6 hours apart.

**Investigations and Treatment**

Following the diagnosis of hypertension, some investigations are done to identify the complications of hypertension that might be present.

1. Urine testing for protein and blood
2. Fasting blood for lipids and glucose
3. Serum urea, creatinine and electrolyte
4. Electrocardiography to assess the functioning of the heart
5. Echocardiography

The patient will be given antihypertensive drug(s) and counseled on compliance. This is because hypertension cannot be cured thus patients are expected to take these drugs for life and this requires determination and endurance.

**Health Risks of Hypertension**

Hypertension does not produce any symptom at the initial stage and for people who do not go for regular medical checkup, the disease may go unnoticed until vital organs like the heart, the brain, the eyes and the kidneys are damaged (Oluwayemi 2010). Hypertension can be controlled but it cannot be cured. The sufferer may lead a normal life and become aged if proper medical care is sought

and complied with but when hypertension is not properly controlled, it may lead to serious complications such as:

**Damage to the Heart and Blood Vessels**

1. Damaged and narrowed arteries: Hypertension gradually increases the pressure of blood flowing through the arteries, thereby damaging the cells of the arteries inner lining. This makes the artery walls become less elastic thereby limiting blood flow to vital organs of the body.
2. Aneurysm: Hypertension can cause the blood vessels to become weak and bulge thereby forming an aneurysm. If an aneurysm ruptures, it could cause life-threatening internal bleeding leading to sudden collapse and death.
3. Hypertensive heart disease: This tops the list of health risks of hypertension and is the leading cause of sudden attack and death among hypertensive clients. Otinwa (2005) asserted that hypertension makes the heart to overwork in order to pump blood round the body which makes the heart beat faster and sometimes irregular. Various heart diseases are caused by high blood pressure such as
    a. Coronary artery disease: This is the disease that affects the heart due to narrowing of the blood vessels that supply the heart with oxygen and nourishment. This makes blood supply to the heart to reduce or stop completely depending on the extent of narrowing of the blood vessels. If this condition persists, it could lead to chronic chest pain and myocardial infarction.
    b. Ventricular hypertrophy: This is the disease that occurs due to overworking of the heart to pump blood to all the organs of the body as a result of increased resistance from the blood vessels. The heart muscle becomes thicker and bigger. This increase in muscle size could compromise blood supply to the heart muscles leading to further complications
    c. Heart failure: Occurs due to overworking of the heart to supply blood and nutrients to the body. This leads to weakness of the heart and failure later results.
    d. Heart attack: occurs when the blood flow to the heart is interrupted due to blockage of the arteries supplying blood to it and the heart function suddenly stops in the affected region.

**Damage to the Brain**

Just like the heart, the brain depends on a nourishing blood supply to work effectively and survive. Hypertension can lead to several health risks including:

1. Transient Ischemic attack (TIA): This is sometimes called a ministroke. A transient ischemic attack is a brief temporary disruption of blood supply to the brain. It's often caused by atherosclerosis or a blood clot-both of which can arise from hypertension. TIA is often a warning that the client is at risk of full-blown stroke.
2. Stroke: A stroke occurs when part of the brain is deprived of oxygen and nutrients making the making the brain cells to die.

Uncontrolled hypertension leads to stroke by damaging and weakening the brain's blood vessels making them narrow, rupture or leak. High blood pressure could also cause blood clots to form in the arteries leading to the brain blocking blood flow and potentially causing stroke.

3. Dementia: Dementia is a brain disease resulting in problems with thinking, speaking, reasoning, memory, vision and movement. Vascular dementia can result from narrowing and blockage of the arteries that supply blood to the brain. It could also result from strokes caused by an interruption of blood flow to the brain.
4. Retina damage: persistent hypertension could lead to blurred vision due to reduction in the blood supply to the retina in the eyes which could eventually result in loss of vision.
5. Mild Cognitive Impairment: This is a transition stage between the changes in understanding and memory that come with aging and the serious problems caused by Alzheimer's disease. This results from blocked blood flow to the brain when hypertension damaged the arteries.

**Damage to the Kidneys:**

The kidney filters waste and excess fluid from the blood. This process requires healthy blood vessels. Hypertension can injure the blood vessels within the kidney and the blood vessels carrying blood to the kidneys causing several types of kidney disease (nephropathy)

1. Kidney Failure: Hypertension is one of the most common causes of kidney failure. Hypertension can damage both the large arteries leading to the kidneys and the tiny blood vessels within the kidneys. The damage hinders the kidney from effective filtering of waste from the blood. This leads to accumulation of dangerous levels of fluid and waste in the kidneys which might ultimately require dialysis or kidney transplantation.
2. Kidney Scaring (glomerulosclerosis): Glomerulosclerosis is a type of kidney damage caused by scarring of the glomeruli. The glomeruli are tiny clusters of blood vessels within the kidneys that filter fluid and waste from the blood. This make the kidneys unable to filter waste effectively leading to kidney failure.
3. Kidney artery aneurysm: An aneurysm is a bulge in the wall of a blood vessel. When it affects the artery leading to the kidney, it is known as renal artery aneurysm. Atherosclerosis is one of the potential causes which weakens and damages the artery wall. Hypertension in a weakened artery can cause a section to enlargeand form a bulge-aneurysm which can rupture and cause life threatening internal bleeding.
4. Pre-eclampsia and Eclampsia: In patients who had tendency to develop hypertension or patients already having hypertension, pregnancy could trigger off the risk of developing pre-eclampsia or eclampsia during pregnancy. Hence patients with hypertension should be well managed

Death: Stroke and coronary artery disease are the most common causes of death, although hypertensive patients are also prone to renal failure and peripheral vascular disease. Hypertensives have a six-fold increase in stroke. There is a three-fold increase

in cardiac death (due either to coronary events or to cardiac failure).

**Preventive Measures against Hypertension**

Otinwa (2005) asserted that there are some lifestyle changes that can help to lower blood pressure if strictly adhered to such as:

***1. Weight Loss:***

Blood pressure often increases as weight increases. Being overweight also can cause disrupted breathing with sleeping (sleep apnea), which further raises the blood pressure. Weight loss is one of the most effective lifestyle changes for controlling hypertension. Losing even a small amount of weight in overweight or obese patients can help reduce blood pressure. In general, blood pressure may reduce by about 1 millimeter of mercury (mm Hg) with each kilogram of weight loss.

***2. Regular Exercise:***

Palmer (2003) posited that the health benefits of regular exercise include improvements in cardiovascular disease risk factors, diabetes, obesity, osteoporosis and mental health. Regular physical activity — such as 150 minutes a week, or about 30 minutes most days of the week — can lower blood pressure by about 5-8mmHg. Exercise must be consistent because inconsistency could lead to increase in blood pressure again.

In patients with elevated blood pressure, exercise can help avoid developing hypertension. Some examples of aerobic exercise that may lower blood pressure include walking, jogging, cycling, swimming or dancing.

***3. Healthy Diet:***

Eating a diet that is rich in whole grains, fruits, vegetables and low-fat dairy products and skimps on saturated fat and cholesterol can lower blood pressure by up to 11 mm Hg in patients with hypertension. This eating plan is known as the Dietary Approaches to Stop Hypertension (DASH) diet.

***4. Decreased Sodium Intake:***

A small reduction in the sodium in diet can improve the health of the heart and reduce blood pressure by about 5 to 6 mmHg in hypertensive patients. Table salt is a major source of sodium. 1 level teaspoon of salt has 2,300 mg of sodium. In general, salt intake should be reduced to a teaspoonful a day. However, a lower sodium intake — 1,500 mg a day or less — is ideal for most adults. Reading food labels, eating fewer processed foods and not using salt at times could also help in reducing sodium intake.

***5. Decreased Alcohol Consumption***

Alcohol can be both good and bad for human health. By drinking alcohol only in moderation — generally one drink a day for women, or two a day for men - can potentially lower blood pressure by about 4 mmHg. But that protective effect is lost when one drinks too much alcohol. Drinking more than moderate amounts of alcohol can actually raise blood pressure thereby causing hypertension and can also reduce the effectiveness of blood pressure medications.

***6. Quit smoking***

Each stick of cigarette smoked increases blood pressure for many minutes after smoking it. Quitting smoking helps the blood pressure to return to normal. Quitting smoking can reduce the risk of heart disease and improve overall health. People who quit smoking may live longer than people who never quit smoking.

***7. Stress Reduction***

Chronic stress may contribute to high blood pressure. Occasional stress also can contribute to high blood pressure. Some people react to stress by eating unhealthy food, drinking alcohol or smoking. Hypertensive patients should identify what makes them to feel stressed, such as work, family, finances or illness. Once the cause of the stress is identified, ways to eliminate or reduce stress would be fashioned out. Where all the stressors can't be eliminated, one can at least cope with them in a healthier way. Planning events ahead, finding solutions to problems, avoiding stress triggers, practising gratitude, creating time to relax and engaging in pleasurable activities are some ways of reducing stress.(Otinwa, 2005)

***8. Regular Monitoring of Blood Pressure***

Home monitoring can help to keep an eye on blood pressure and to see the effectiveness of lifestyle changes and drugs being used. It also helps to identify potential health complications especially due to highly elevated blood pressure. Home monitoring of blood pressure will keep it within healthy range. Any abnormality must be reported promptly to a doctor. The results of home monitoring of blood pressure should be communicated to the doctor for quick action.

***9. Compliance with Treatment***

The treatment of hypertension requires taking antihypertensive drugs for many years. This could be difficult to comply with. However, in order to achieve good blood pressure control, efforts must be made to use the drugs as prescribed by the doctor at the right time. Self-medication must be avoided. Drugs should not be skipped even if the blood pressure is normal. If any side-effect of a drug is noticed, the doctor should be informed who will make the necessary changes if the need arises.

***10. Regular Medical Check-up***

Patients with hypertension should see doctor for treatment and check-up. The doctor will examine the patient, counsel, prescribe drugs and will do necessary tests. The patient will be asked to see the doctor from time to time. This will help to review the treatment and check if there is any complication. This will also be for life and it is possible for a patient to become discouraged with time. However, visiting the doctor at appointed times or when there is any health problem will help to effectively manage hypertension and its complications.

**Role of Health Education in Prevention and Control of Hypertension**

Health education is a social science that draws from the biological, environmental, psychological, physical and medical sciences to promote health and prevent diseases, disability and premature death.

Alebiosu and Adeyemi (2019) posited that health education is the principle by which individuals and groups of people learn to behave in a manner conducive to the promotion, maintenance and restoration of health. World Health Organization (WHO) (2002) defined health education as comprising of consciously constructed opportunities for learning involving some form of communication designed to improve health, literacy, including improving knowledge and developing life skills which are convincing to individual and community health. Health Education is also described as a process that informs, reforms motivates and helps people to adopt and maintain healthy practices and lifestyles. Fabiyi (2005) asserted that

health education is a part of health care that is concerned with promoting healthy behaviour. Health motivates an individual to develop a positive behaviour towards disease prevention and utilization of health facilities. Fodor and Dolis(2002) opined that health education is a process through which health information is successfully imparted so that the recipient is motivated to make use of the information for promotion, protection, maintenance or restoration of the family health or the community health. This view was supported by Basavanthappa (2010) who posited that health education is a process that informs, motivates and helps people to adopt and maintain healthy practices and life styles, advocates environmental changes that needed to facilitate this goal and conducts professional training and research to the same end. Health education in this write-up is tailored towards awakening people's knowledge on ways of ameliorating the health risks of hypertension in Nigeria.

The objectives of health education as posited by Akinsola (2006) are to increase knowledge of people about health related matters and to encourage people to recognize early signs of diseases and take immediate steps among others.

Below are some roles of health educators in the prevention and control of hypertension:

- Adequate management of hypertension will produce positive results, ameliorate the condition and prolong the life of the clients.
- This is possible through creating high level of awareness about the health risks of hypertension through campaigns on mass media and radio jingles about the health risks and how to prevent it.
- Accurate diagnosis and adequate management of the condition will predispose to primary prevention. This includes weight reduction and changes in lifestyle of the clients.
- Clients should avoid smoking, alcohol intake and stress.
- Health education regarding minimum knowledge concerning the promotion and preservation of cardiovascular health is vital to the survival of the clients.
- Appropriate training of health personnel on effective diagnosis, treatment and follow-up of clients.
- Preparation of the technical information required for health education, diagnosis, treatment and follow-up of hypertension patients is very important.
- Maintenance of referral links
- Establish blood pressure screening programmes and centres that are easily accessible.
- Teach stress management technique, monitor blood pressure, and weight.
- Promote an optimum balance between rest and activity
- Health educate about nutrition and judicious use of anti-hypertensive drugs.
- Assess the patient's life-style and promote lifestyle changes
- Foods rich in sodium should be reduced especially salt and food seasonings.
- Likewise a low fat diet should be encouraged

**Conclusion**

Hypertension is a chronic disease with its deadly antecedents. It was concluded that effective health education could go a long way in reducing the menace of chronic non-communicable disease in the society. Consumption of healthy diet rich in

protein, vitamins, and water with reduced quantity of fat and sodium as well as modification of lifestyle will also help to checkmate hypertension. Drinking of alcohol, excessive consumption of salty substance, eating of junks and fast foods are part of the factors responsible for the increase in high blood pressure and as such should be avoided. Effective and regular exercise will improve heart conditions and reduce the narrowing down of the blood vessels. This will ensure free flow of blood in the heart and healthy life.

**Recommendations**

Based on the findings, the following recommendations were made;

1) Effective health education through mass literacy campaigns should be embarked on to encourage the populace to improve their health status which will boost their knowledge on certain health issues like hypertension. Health educators should ensure that adequate information and advice are given to patients with hypertension to change their perception and help them partake in the management of their health conditions.
2) Government policy on health should be tailored more on prevention of hypertension than its treatment.
3) Establishment of hypertension clubs will enhance quick recovery as it will help patients share and exchange view on the way out of this deadly disease and how to manage it.
4) More health care facilities should be established and equipped with necessary equipment and personnel that will enhance effective functioning of the centres and provide necessary health counselling and benefits to clients.
5) Regular medical checkup should be advocated to ensure early diagnosis and treatment of this deadly disease in Nigeria.

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