

Knowledge and Compliance with Preventive Measures of Cardiovascular Diseases among Health Workers in Tertiary Health Facilities in Rivers State

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Abstract

This study investigated knowledge and compliance with preventive measures of cardiovascular diseases among health workers in Tertiary Health facilities in Rivers State. A sample of 608 health workers drawn from a population of 2500 health workers in University of Port Harcourt Teaching Hospital using simple random sampling technique participated in the study. Three issues were addressed in the analysis that was done in the report. The instrument for data collection is Cardiovascular Disease Questionnaire design by author. Staff in the medical facilities who learned to identify the various signs and symptoms of cardiovascular disorders, as well as those for which cardiovascular diseases are known, have shown to be at least as part of risk for developing them. While there is a relatively low level of compliance among health care professionals, the interventions aimed at preventing cardiovascular disease are not in use. It was therefore recommended among others that health workers in Rivers State should check on a regular basis their blood pressure, sugar and lipid levels. All should have the goal of being healthy, with an active lifestyle, including regularly eating a wide variety of fruits and vegetables and exercising on a regular basis.

Keyword: Cardiovascular diseases, health workers, Tertiary Health facilities

INTRODUCTION

Various organisations, companies, as well as experts, like WHO, the National Heart Foundation of Nigeria, and the American Heart Association (American Heart Association) typically use the term "cardiovascular diseases" to describe heart related problems. The World Health Organization defines cardiovascular diseases as an assemblage of illnesses to the heart and blood vessels, while the Australian Heart Foundation prefers to call it all diseases and conditions which affect the heart and blood vessels, (noncommunicable, involves arrhythmias, vascular, congenital, isochoric, and isochoric diseases, and all of which may). CVD is a disorder caused by various noncommunicable factors, including hypertension, congestive heart failure, arrhythmias, and congenital conditions (which results in arrhythmia.) Often, CVDS involves the arteries, as well as the heart. Cardiovascular disorder refers to any illnesses that have anything to do with the heart and blood vessels.

CVD also caused around 17.9 million deaths in 2015, accounting for 31% of the total global mortality. Although more than 75% of CVD deaths occur in low and middle-income countries, where the leading cause of the disease is a lack of resources. Seven million of these deaths were caused by coronary heart disease and 6.7 million by stroke, according to

research. Moreover, WHO (2005) states that 7 million deaths occur per year as a result of systemic hypertension. Both modifiable and non-modifiable risk factors for CVD were identified as risk factors by the World Heart Federation (WHF) (2017). Many risk factors, such as smoking and high blood pressure can be tackled with medicine or an or by changes in lifestyle (high blood pressure). Obesity, as well as fatness Unmodifiable factors include: age, gender, and family background.

As well, also, additionally The American Heart Association (2018) named major risk factors to be smoking, advancing age, and diabetes as significant risk factors. Furthermore, there are other contributing factors, such as obesity, inactivity, family background, and so on.

Cardiovascular disease are Major concern worldwide and Nigeria, many workers pose a risk of cardiovascular disease (Chibuzor 2021). People spend many years in their adults lives at Jobs where they are exposed to various chemical, viruses, and other illnesses. Related diseases (Boschman in Chibuzor 2021), according to the international Labour organization (ILO), almost 160 million people worldwide suffer from work- related diseases (Chibuzor 2021),

There are several factors that are already under the patient's control, such as smoking, drinking, obesity, stress, inactivity and the patient's diet. This is because variables can be altered and their effect on the mortality and morbidity can be lowered. Knowledge, according to Mayor (2009) was defined as the information, skills, and understanding that you have gained through learning or experience. It is certain that knowledge comes by education and information. Where, people have knowledge about those factors that can predispose them to developing cardiovascular diseases it will be easier to comply to these factors for the prevention of CVD.

Statement of the Problem

Workers in health system around the world are experiencing increasing stress and insecurity as a result of the array and complexity of diseases and nova ones coming on board. For health workers to be able to function effectively and maximally in their profession, they have to remain healthy and strong. Since their main duty is to save lives and alleviate suffering. However, recent events have shown that many health workers are developing cardiovascular problems and some have died suddenly while on duty or shortly after closing from work. Due to the aforementioned reasons, the author intends to identify the factors responsible for the trend. In these regard the primary objective of this study was to determine the knowledge and prevention practices of cardiovascular diseases and risk factors among health works in tertiary health facilities in Rivers State

Research question

This study attempts to provide answers to the following questions:

1. What is the knowledge of cardiovascular diseases prevention among health workers in tertiary health facilities in Rivers State
2. What are the signs and symptoms of cardiovascular diseases preventive measure among health workers in tertiary health facilities in Rivers state
3. Compliance with cardiovascular diseases prevention measures among health workers in tertiary health facilities in Rivers state

Literature Review

Cardiovascular Diseases

Cardiovascular Disease (CVDs) is a category of diseases that affect the heart and/or blood vessels, including Coronary Artery Disease (CAD), which involves myocardial infarction and

angina. According to the World Health Organization (2017), cardiovascular diseases refer to a category of heart and blood vessel disorders. Furthermore, the American Heart Association (AHA) (2014) identified cardiovascular disease as disease of the heart and blood vessels.

The World Health Organization (2017) announced on World Heart Day that cardiovascular diseases (CVDs) kill approximately 17.7 million people per year, accounting for 31% of all global deaths. According to the study, 75 percent of CVD deaths occur in developing countries with low/middle income, as opposed to developed countries, and 80 percent of CVDs are caused by cardiac incidents such as strokes and heart attacks.

Cardiovascular disease is the leading cause of death in the world, with more people dying from it than from any other cause. Achalu (2010) backed this up by claiming that hypertension, one of the leading risk factors for CVD, is a serious global health problem. However, it has been established that 90% of cardiovascular disorders are preventable.

The Compliance Definition

According to Righteous and Chibuzor (2021), Diabetics is one major component of cardiovascular diseases with the risk of nonalcoholic fatty liver disease.

Michael (2009) defines enforcement as "the act of obeying a law, agreement, or demand." However, there are several factors that could be responsible for people's noncompliance with health problems, such as poverty, a lack of education, a lack of access to health services, and time constraints, among others.

Concept of knowledge.

Knowledge, according to Dorivin, (2003) is often defined as a belief that is true and justified. This definition has led to its measurement by methods that rely solely on the correctness of answers. A correct or incorrect answer is interpreted to mean simply that a person knows or does not know something. According to Chu, Schubert and Dion (2006) knowledge is a concept that has gained importance recently due to interest in knowledge management. Chu et al gave gained prominence as: knowledge as potential, knowledge as a cut-point in a continuum, and knowledge as an object verse process.

Types of Cardiovascular Diseases

1. Coronary heart disease: this is a condition causing restriction in the supply of blood to the heart and muscles through the blood vessels.
2. Cerebrovascular diseases: disease of the blood vessels supplying the brain with blood
3. Peripheral arterial disease: disease of blood vessel supplying the arms and legs
4. Rheumatic Heart disease: damage to the heart muscles and heart valves from rheumatic fever caused by streptococcal bacterial
5. Congenital heart disease: malformation of heart structure existing at birth.
6. Deep vein Thrombosis and pulmonary embolism: blood clots, in the leg veins, which can dislodge and move to the heart and lungs.

Cardiovascular Risk Factors

Risk factors, as described by the British Heart Foundation (2011), are conditions that increase one's risk of contracting a disease. These risk factors are either modifiable or non-modifiable risk factors. Modifiable risk factors are those that a person can work to alter, while non-modifiable risk factors are those that cannot be modified. However, many non-modifiable risk factors can be controlled while their effects are felt when the changes to lifestyle has been made.

Kannel, (2000) defined cardiovascular risk factors as a condition(s) increasing the tendency of the occurrence of CVD. Furthermore, the American Heart Association (2015) identified

risk factors such as cigarette smoking, high blood pressure, advancing age, and diabetes mellitus. According to the Nigeria Cardiac Society (NCS), possible risk factors for cardiovascular disease include female sex, high socioeconomic class, sedentary lifestyle, age 40 years, and a high energy diet.

Important Risk Factor

According to American Heart Association (2014), these are unchangeable factors that significantly increase the risk of heart and blood vessel diseases.

- Elevated blood cholesterol levels (particularly low density lipoprotein cholesterol) (LDL.C)
- Hypertension (high blood pressure)
- Sleep deprivation
- Cigarette smoking

Diabetes mellitus is a type of diabetes that affects the body's ability

- Obesity
- Insufficient physical activity
- Metabolic disorder
- Excessive alcohol consumption

Risk Factors That Cannot Be Changed

These are factors that cannot be modified but are in-built in a person.

- Age: Risk increases as one gets older
- Gender: Before the age of 60 men are at greater risk than women
- Family history: risk is high if blood relatives suffer early heart disease

Risk Factors That Can Be Changed

According to World Heart Federation, (2017) some major risk factors can be changed, managed and regulated by medication and lifestyle change.

- Tobacco smoking
- High levels of cholesterol in the blood
- Hypertension (high blood pressure)
- Lack of physical activity
- Obesity and obesity

Diabetes mellitus is a form of diabetes that affects the body's ability

Risk Factors for Cardiovascular Disease

According to Michael, age is described as the period in one's life when a particular qualification, strength, or capacity emerges or rests (2009). Age is a significant risk factor for developing CVD, with the risk roughly tripling with each decade of life. It has been documented that more than half of those who die from coronary heart disease are aged 65 and up. The sex

Gender has been shown to be significantly associated with the incidence of CVD, especially among men, who have a higher risk of heart disease than premenopausal women. According to reports, women after menopause face the same CVD risks as men. According to the WHO, gender plays a significant role in approximately 40% of the differences in CVD morbidity and mortality. Hormonal variations have been shown to be important in the relationship between gender and CVD risk, with high estrogen levels in women performing protective functions on the metabolic and hemostatic systems. Estrogen levels have been shown to reduce post-menopause symptoms by influencing improvements in female lipid metabolism, resulting in higher HDL and LDL cholesterol levels.

Using Cigarettes

Tobacco use and smoking raise the risks of CD; however, secondary exposure is also important in increasing CVD risks. O'Donnell and Roberto both agree. (2017) at the Framingham Heart Study, smokers were found to be at a higher risk for CVD Physical Inactivity

According to Achalu (2010), people who lead sedentary lifestyles due to inactivity or lack of exercise are at a higher risk of developing heart disease. However, Prasad and Das (2009) believe that, once coronary artery disease has manifested, exercise training will increase patient functionality and minimize overall mortality, thus lowering the risk of sudden death. Globally, the rise in urban and economic development has significantly reduced the amount of physical activity. According to the WHO, more than half of the world's population is insufficiently involved. It has been shown that exercising for more than two hours greatly reduces the risk of CAD by 30%.

Consumption of Alcohol

According to the American Heart Association (2018), excessive alcohol consumption will increase the levels of certain fats in the blood (triglycerides). It can also cause elevated blood pressure, heart disease, and an increase in calorie consumption. Excessive drinking and binge drinking can lead to stroke, cardiomyopathy, cardiac arrhythmia and sudden cardiac death.

Excessive alcohol consumption is also linked to an increased risk of alcohol liver disease (ALD), heart failure, and some cancers. Although extensive research has shown that moderate alcohol intake is associated with health benefits, including less cardiovascular disease, diabetes. Many doctors have been wary of endorsing alcohol use for fear of encouraging heavy or excessive alcohol consumption.

According to British Heart Foundation, (2011) drinking more than the recommended amount of alcohol can have a harmful effect on the heart and general health e.g. abnormal heart rhythms.

Obesity is an issue.

Obesity is described as having a body mass index (BMI) of 30 or higher, according to the American Heart Association (2014). The word "obesity" refers to a person's health condition that is slightly above his or her ideal healthy weight. According to studies, almost 70% of American adults are either overweight or obese. Obesity increases one's risk of developing health conditions such as heart disease, stroke, high blood pressure, diabetes, and others.

Alikor and Nwafor (2016) recorded high rates of obesity in Nigeria's Niger Delta region, which they attribute to a sedentary lifestyle. They also discovered that females were much more likely than males to be obese. Furthermore, according to Achalu (2010), people who are obese or overweight are more likely to have high blood pressure, heart disease, and stroke.

The body is made up of water, fat, protein, starch, and various vitamins and minerals. If you have too much fat, particularly around your waist, you are more likely to develop health issues such as high blood pressure, high blood cholesterol, and diabetes. Obesity, according to the American Heart Association (2015), raises blood cholesterol and triglyceride levels:

- Lower "good" HDL cholesterol levels
- Boost blood pressure
- Trigger diabetes.

These people are at a high risk of having a heart attack.

Lack of Good Diet plan

Diet plays an important role in the development and manifestation of cardiovascular disease. Diet is one of the most important factors that, when altered, can have an effect on all other cardiovascular risk factors.

A high-saturated-fat diet raises the risk of heart disease and stroke. It is estimated that it causes approximately 31% of coronary heart disease and 11% of strokes worldwide.

According to research, elevated blood liquid (fat) levels have a significant association with the risk of coronary artery disease, heart attack, and coronary death. What one eats has an effect on abnormal blood lipids. A diet high in saturated fats (e.g., cheese) and trans fats (commonly found in cakes, cookies, and fat food) results in high cholesterol levels. Furthermore, high-fat, carbohydrate-rich diets, according to Christian (2018), raise the risk of heart disease.

Saturated fats can be found in animal products, while trans fats can be found in oil that has been hydrogenated to form semi-hard fats. Hydrogenated fat can be found in processed foods such as. Shop-bought cakes, cookies, stock cubes, and a variety of other products Saturated and trans fats increase blood cholesterol levels, which may contribute to atherosclerosis. Unsaturated fats, polyunsaturated fats, and monounsaturated fats are good for your heart and can be found in fish, nuts, peas, and vegetables. The essential fatty acids Omega-3 and Omega-6 are found in only fish and in nuts and seeds. The body cannot make these acids so, we have to eat them to gain their benefits, the of the benefits is that they improve good cholesterol level in the body.

However, it is important to note that if one's total fat intake is greater than 37% of total calories, the risks of cardiovascular diseases are high even it that fat is unsaturated. Saturated fat intake should not exceed 10% of total energy and for high-risk groups, e.g people with diabetes; it should be 7% or less of total energy.

Sodium

High blood pressure is a major risk factor for cardiovascular disease. If one ha a diet high in sodium one risks hypertension. It has been estimated that a universal reduction in dietary intake of sodium by about 1g of sodium a day, about 3g of salt, would lead to a 50% reduction In the number of people needing treatment for hypertension this same disease would lead to a 22% drop in the number of deaths resulting from strokes and 1 6% fall in the number of deaths from coronary heart disease.

Fruits and Vegetables

Eating a diet high in fresh fruits and vegetables protects the heart. How fruit and vegetable intake accounts for about 20% of cardiovascular disease worldwide. Components that protect against heart disease and stroke are found in fruits and vegetables.

Whole grain Cereals

Wholegrain cereal are unrefined and do not have the bran or germ removed. They contain folic acid, vitamin B and fiber, all of which are important protectors against heart disease.

Fish

In countries where fish consumption is high, there is a reduced risk of death from all causes as well as cardiovascular mortality

Stress and Heart Health

According to American Heart Association, (2018) everyone feel stress in different ways and reacts to it in different ways. It is crucial to know what can be done about stress as it can lead to a wide variety of health problems. Research has shown that when stress is excessive it can

contribute to hypertension, asthma, ulcers and irritable bowel syndrome. When stress is constant, the body remains in high gear off and on for days or weeks at a time. Although the link between stress and heart disease is not clear, chronic stress may cause some persons to drink too much alcohol which can increase one's blood pressure and damage the artery walls. To deal with stress, one can engage in exercise, maintain a positive attitude, not smoking, not drinking too much coffee, enjoying a healthy diet and maintaining a healthy weight are good ways to deal with stress according to American Heart Association (AI-IA), 2018). Figuring out how stress pushes one's buttons is an important step in dealing with it. Getting upset or angry can trigger a heart attack.

Signs and symptoms of cardiovascular diseases

According to Christian (2008) symptoms of Cardiovascular diseases vary, depending on the specific type of disease a patient has.

The typical symptoms of an underlying cardiovascular issue include:

- Pains or pressure in the chest, which may indicate angina.
- Pain or discomfort in the arms, the left shoulders, elbows, jaw or back.
- Shortness of breath, also known as dyspnea.
- Light-headed or faint.
- Cold sweat.

Treatment and prevention

Treatment: According to Gary, (2015), treatment for cardiovascular diseases is usually the same for both women and men treatment which may include lifestyle changes, medicine, medical and capsular procedures and cardio rehabilitations.

- **Lifestyle changes:** These changes can help prevent or treat the disease. The changes may be the only treatment that some people need.
- Quit smoking
- Follow a healthy diet
- be physically active
- Maintain a healthy weight
- **Stress and depression:** Having supportive people around whom one shares one's problems is important. Depressed person to talk to his/her doctor.
- **Medicines:** Many of which are designed to lower cholesterol
- **Cardiac Rehabilitation:** The team may include Doctors, Nurses, exercise specialist, physical and occupational therapists, dietitians or nutritionists and Psychologists or other mental health specialists.

These provide guidance on which specific preventive actions to initiate, and with what degree of intensity. The second category of people who have high risk of cardiovascular diseases need intensive lifestyle interventions and appropriate therapy.

According to American Heart Association (AHA)(2014), preventing heart disease means making smart choices that will pay off. All age groups can benefit from a healthy diet and adequate physical activity.

Choose a healthy eating plan, the type of food one eats can decrease one's risk of heart disease and stroke. Foods low in saturated fat, trans fat and sodium are best choices. Healthy diet should include plenty of fruits and vegetables, fiber-rich whole grain, fish (only fish at least twice a week), nuts, legumes and seeds. Lower fat dairy products and poultry (skinless). Limit sugar-sweetened beverages and red meat. Eat lean meat in small cuts.

Be physically active. Slowly work up to at least 2Y2 hours (150 minutes) of moderate-intensity aerobic physical activity (e.g. brisk-walking) every week or 1 hour and 15 minutes of rigorous intensity aerobic physical activity (e.g. jogging, run).

Warning signs of a heart attack and stroke are to be learnt early. Not everyone experience sudden numbness with a stroke or severe chest pain with a heart attack. Heart attack symptoms in women can be different from men.

Prevention According to Different Age Groups

In your 20s

Don't be sedentary and act healthy. Healthy people need doctors too, so finding a doctor and having regular wellness examination is important.

Be physically active

Don't smoke and avoid second hand smoke

In your 30s

Make heart-healthy living a family affair. Spend less time on the couch and more time on the move and involve family members in gardening, walking or cooking activities is crucial and helpful.

40 Years Olds

Watch your weight. Avoid weight gain by following a heart-healthy' diet and getting plenty of exercise.

Regular blood sugar level check and fasting blood glucose test should be done at 45 years of age. These will start as baseline. The tests could be done earlier if one is diabetic or overweight. Don't brush off snoring. Sleep apnea if not well treated Scan contribute to high blood pressure, heart disease and stroke.

50 Years Olds

Getting older has impact on the heart. So, it is important to:

- Eat a healthy diet
- Learn the warning signs of a heart attack and stroke
- Follow treatment plan. if already diagnosed with high blood pressure, high cholesterol, diabetes or other conditions that increase risk of heart disease and stroke.

60 Years and Above

Monitoring of blood pressure, cholesterol and other heart-related numbers is crucial at this stage and while much work has been done on knowledge, compliance and prevention of cardiovascular diseases in recent and past studies in Nigeria and outside Nigeria, this work focuses on the peculiarity in University of Port Harcourt Teaching Hospital, Rivers State.

Methodology

Research Design: The study adopted analytic descriptive survey design. In the present study, the researcher described knowledge of cardiovascular diseases, their symptoms and preventive measures among health workers in University of Port Harcourt Teaching Hospital.

Population for the Study: The population for this study consisted of 2,500 health workers in University of Port Harcourt Teaching Hospital. These are made up of nurses, doctors, laboratory scientists and social workers.

Sample and Sampling Techniques: The simple random sampling method was used to compose this sample from the population. Taro Yemen formula was used to determine the sample size of this study which is 608. Copies of the questionnaire were administered to 620 health workers in University of Port Harcourt Teaching Hospital, 614 copies were retrieved out of which 608 were valid.

Instrument for Data Collection: The instrument for data collection is a structured questionnaire called Cardiovascular Disease Questionnaire (CVDQ).

Procedure for data collection: This was done by the researcher and two research assistant, copies of the questionnaire were administered to 620 health workers in University of Port Harcourt Teaching Hospital, 614 copies were retrieved out of which 608 were valid which was later used for data analysis.

Method of Data Analysis: Percentage, mean and standard deviation was used to answer the research question. While Analysis of variance (ANOVA) was used to test the null hypotheses at 0.05 alpha level.

Results

Research Question 1: What is the knowledge of cardiovascular diseases as a cardiovascular disease preventive measure among health workers in Tertiary health facilities in Rivers State?

Table 1: Percentage for the knowledge of cardiovascular diseases as a cardiovascular disease preventive measure among health workers

Cardiovascular diseases	FALSE	TRUE
Hypertension	6 (1.0%)	602 (99.0%)
Stroke	11(1.8%)	597 (98.2%)
Coronary Heart disease	5 (0.8)	603 (99.2%)
Peripheral vascular disease	23(3.8%)	585 (96.2%)
Angina	147 (24.2%)	461 (75.8%)
Arrhythmia	123 (20.2%)	485 (79.8%)
Myocardial infarction	60 (9.9%)	548 (90.1%)

Table 1 shows that 6 health workers representing 1.0% of sample of health workers do not have knowledge of hypertension as a cardiovascular disease while 602 health workers representing 99.0% of the sample of health workers have knowledge of hypertension as a cardiovascular disease. Eleven persons representing 1.8% of the sample of health workers do not have knowledge of stroke as a cardiovascular disease, but 597 health workers representing 98.2% sampled health workers do. Five health workers representing 0.8% of health workers do not recognize coronary heart disease as a cardiovascular disease while 603 health workers representing 99.2% of the sample of health workers do. Again, 23 health workers representing 3.8% of sample of health workers do not recognize peripheral vascular disease as a cardiovascular disease while 585 health workers representing 96.2% of the sample of health workers do. For angina, 147 persons representing 24.2% of health workers sampled have no knowledge of it as a cardiovascular disease while 461 persons representing 75.8% of the health workers sampled have knowledge of angina as a cardiovascular disease. Furthermore, 123 health workers representing 20.2% of the health workers sampled have no knowledge of arrhythmia as a cardiovascular disease while 485 representing 79.8% of health workers have knowledge of arrhythmia as a cardiovascular disease. Finally, 60 workers representing 9.9% of health workers sampled have no knowledge of myocardial infarction as a cardiovascular disease while 548 representing 90.1% of health workers sampled have knowledge of myocardial infarction as a cardiovascular disease. Since a greater percentage of sampled health workers have knowledge of these diseases as cardiovascular diseases, it can be inferred that there is knowledge of cardiovascular diseases among health workers in University of Port Harcourt Teaching Hospital.

Research Question 2: What are the signs and symptoms of cardiovascular diseases as a cardiovascular disease preventive measure among health workers in Tertiary health facilities in Rivers State?

Table 2: Percentage for the knowledge of signs and symptoms of cardiovascular diseases among health workers

	Items	False	True
1	Chest pain or heaviness in the centre of the chest	6 (1.0%)	602 (99.0%)
2	Shortness of breath	40 (6.6%)	568 (93.4%)
3	Coughing or wheezing	21(3.5%)	587 (96.5%)
4	Palpitation	52 (8.6%)	556 (91.4%)
5	Swelling in the legs, ankles or feet	42 (6.9%)	566 (93.1%)
6	Fatigue	28 (4.6%)	580 (95.4%)

Table 2 shows that 602 health workers who represent 99.0% of the respondents have the knowledge that chest pain or heaviness in the centre of the chest is a sign and symptom of cardiovascular disease while 6 health workers who represent 1.0% of the respondents do not have the knowledge that chest pain or heaviness in the centre of the chest is a sign and symptom of cardiovascular disease. On the same vein, 568 health workers representing 93.4% of the respondents know that shortness of breath is a sign and symptom of cardiovascular disease, but 40 health workers representing 6.6% of the respondents do not follow that shortness of breath is a sign and symptom of cardiovascular disease. Twenty one health workers representing 3.5% of the respondents do not know that coughing or wheezing is a sign and symptom of cardiovascular disease while 587 for planning their duties ($\bar{x}=2.42$, $Sd=0.68$), for not taking uncompleted work or files home ($\bar{x}=2.26$, $Sd=0.79$) and for not engaging in stressful tasks ($\bar{x}=2.43$, $Sd=0.91$). Based on the criterion mean of 2.50, health workers can be said that health workers in University of Port Harcourt Teaching Hospital comply with taking their medication everyday (if on drugs) and not engaging in smoking as cardiovascular disease preventive measures. Apart from these two items, health workers obtained means less than 2.50 in other items on the compliance list. Hence, the overall mean is less than 2.50, implying that there is no compliance with cardiovascular disease preventive measures. Among health workers in University of Port Harcourt Teaching Hospital.

Research Question 3: What is the compliance with cardiovascular disease preventive measures among health workers in Tertiary health facilities in Rivers State?

Table 3: Mean and standard deviation for compliance with cardiovascular disease preventive measures among health workers

S/n	Item	Mean	Sd
	I discuss heart disease prevention with my doctor	2.17	0.76
	I check my blood pressure regularly	2.31	0.80
	I check my blood sugar periodically	2.33	0.74
	I check my lipid profile regularly	2.08	0.78
	I do not miss my appointment with my doctor	2.18	0.89

I take my medication everyday (if on drugs)	3.24	0.73
I do not smoke	3.20	0.99
I engage in physical exercise three times a week	2.04	0.88
I prefer the staircase to the elevator	2.00	0.82
I do not take carbonated drinks	2.23	0.78
I do not visit eateries	2.14	0.74
I eat plenty fruits and vegetables	2.32	0.73
I plan my duties	2.42	0.68
I do not take uncompleted work or files home	2.26	0.79
I do not engage in stressful tasks	2.43	0.91
Overall	2.36	0.80

Table 3 shows that respondents obtained a mean of 2.17 with a standard deviation of 0.76 for discussing heart disease prevention with their doctors. They obtained a mean of 2.31 and a standard deviation of 0.80 for checking their blood pressure regularly. They had a mean and a standard deviation of 2.33 and 0.74 respectively for checking their blood sugar periodically. Other scores obtained and their respective items are as follows; for checking the lipid profile regularly (x2.08, Sd =0.78), for not missing appointment with their doctors (x2.18, Sd =0.89), for taking their medication everyday (if on drugs) (x3.24, Sd0.73), for not smoking (x3.20, Sd0.99), for engaging in physical exercise three times a week (x 2.04, Sd0.88), for preferring the staircase to the elevator (x=2.00, Sd0.82), for not taking carbonated drinks (x=2.23, Sd=0.78), 'for not visiting eateries (x2.14, Sd0.74), for eating plenty fruits and vegetables (x2.32, Sd0.73), for planning their duties (x =2.42, Sd=0.68), for not taking uncompleted work or files home (x=2.26, Sd=0.79) and for not engaging in stressful tasks (x=2.43, Sd0.91). Based on the criterion mean of 2.50, health workers can be said that health workers in University of Port Harcourt Teaching Hospital comply with taking their medication everyday (if on drugs) and not engaging in smoking as cardiovascular disease preventive measures. Apart from these two items, health workers obtained means less than 2.50 in other items on the compliance list. Hence, the overall mean is less than 2.50, implying that there is no compliance with cardiovascular disease preventive measures among health workers in University of Port Harcourt Teaching Hospital.

Discussion of Findings

In this study, it was found that health workers in University of Port Harcourt Teaching Hospital have knowledge of cardiovascular diseases, general risk factors for developing cardiovascular diseases, smoking as a risk factor for developing cardiovascular diseases, diet

as a risk factor for developing cardiovascular diseases, stress as a risk factor for developing cardiovascular diseases, physical inactivity as a risk factor for developing cardiovascular diseases and signs and symptoms of cardiovascular diseases. There is no compliance with cardiovascular disease preventive measures among health workers in University of Port Harcourt Teaching Hospital. These findings are partly in variance with the findings of Abdulmoneim and Hala (2015) which revealed that public knowledge of cardiovascular diseases and their risk factors in Kuwait is low. The difference in finding may be explained from the fact that sample from general population was involved in Abdulmoneim and Hala's (2015) study, This sample was composed from people of different walks of life who may not have anything to do with health. But in the present study, a sample of health workers from a renowned hospital (University of Port Harcourt Teaching Hospital) is involved. This sample made up of nurses, medical doctors, laboratory scientists and social workers. By virtue of their profession, they are experienced in health services and are expected to be knowledgeable in diseases, prevention, control and cure to be relevant in their profession. Hence, these health workers in University of Port Harcourt Teaching Hospital have knowledge of cardiovascular diseases, general risk factors for developing cardiovascular diseases.

Conclusion

Health Workers in Tertiary Health Facilities, have good Knowledge of Cardiovascular Diseases, risk Factors for Developing Cardiovascular Diseases you, signs and Symptoms of Cardiovascular Diseases. However, they make little or no effort to comply with Cardiovascular Diseases Preventive Measures.

Recommendations

On the basis of the research finding, recommendations made are as follows:

Health Workers in Tertiary health facilities should check on regular basis their blood pressure, sugar and lipids levels. They should show preference to healthy diets including fruits and vegetables. They should engage in periodic to physical exercise to burn off excess fat and to keep their system in good condition.

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