



Okunola Oluseye A

Obafemi Awolowo University Health Center, Nigeria

Assessment of cardiovascular risk factors among fresh undergraduate students of Obafemi Awolowo University, Ile-Ife

Cardiovascular disease (CVD) is a class of diseases that involve the heart or blood vessels. CVD includes coronary artery diseases (CAD) such as angina and myocardial infarction (commonly known as a heart attack). Other CVDs include stroke, heart failure, hypertensive heart disease, rheumatic heart disease, cardiomyopathy, abnormal heart rhythms, congenital heart disease, valvular heart disease, carditis, aortic aneurysms, peripheral artery disease, thromboembolic disease, and venous thrombosis. The underlying mechanisms vary depending on the disease. Coronary artery disease, stroke, and peripheral artery disease involve atherosclerosis. This may be caused by high blood pressure, smoking, diabetes mellitus, lack of exercise, obesity, high blood cholesterol, poor diet, and excessive alcohol consumption, among others. High blood pressure is estimated to account for approximately 13% of CVD deaths, while tobacco accounts for 9%, diabetes 6%, lack of exercise 6% and obesity 5%. Rheumatic heart disease may follow untreated strep throat.

It is estimated that up to 90% of CVD may be preventable. Prevention of CVD involves improving risk factors through: healthy eating, exercise, avoidance of tobacco smoke and limiting alcohol intake. Treating risk factors, such as high blood pressure, blood lipids and diabetes is also beneficial. Treating people who have strep throat with antibiotics can decrease the risk of rheumatic heart disease. The use of aspirin in people, who are otherwise healthy, is of unclear benefit. Cardiovascular diseases are the leading cause of death worldwide except Africa. Together CVD resulted in 17.9 million deaths (32.1%) in 2015, up from 12.3 million (25.8%) in 1990. Deaths, at a given age, from CVD are more common and have been increasing in much of the developing world, while rates have declined in most of the developed world since the 1970s. Coronary artery disease and stroke account for 80% of CVD deaths in males and 75% of CVD deaths in females. Most cardiovascular disease affects older adults. In the United States 11% of people between 20 and 40 have CVD, while 37% between 40 and 60, 71% of people between 60 and 80, and 85% of people over 80 have CVD. The average age of death from coronary artery disease in the developed world is around 80 while it is around 68 in the developing world. Diagnosis of disease typically occurs seven to ten years earlier in men as compared to women.

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The study assessed cardiovascular risk factors among fresh undergraduate students of Obafemi Awolowo University, Ile-Ife, State. The objectives of the study are to determine the prevalence of these risk factors among the respondents, to identify risk factors that influence their cardiovascular status and to assess socio-demographic determinants of high cardiovascular diseases among the respondents. A cross-sectional descriptive study was employed using a structured questionnaire, a collection of fasting blood for lipid profiles analysis and blood sugar. Their height and weight were measured using calibrated stadiometer and standardized weighing scale. Also, blood pressures were measured with the aid of stethoscope and mercury sphygmomanometer. Three hundred and ninety-three respondents were selected using a simple random technique sampling. The data were analyzed using SPSS software version 12.

There are many cardiovascular diseases involving the blood vessels. They are known as vascular diseases.

- Coronary artery disease (also known as coronary heart disease and ischemic heart disease)
- Peripheral arterial disease – disease of blood vessels that supply blood to the arms and legs
- Cerebrovascular disease – disease of blood vessels that supply blood to the brain (includes stroke)
- Renal artery stenosis
- Aortic aneurysm

There are also many cardiovascular diseases that involve the heart.

- Cardiomyopathy – diseases of cardiac muscle
- Hypertensive heart disease – diseases of the heart secondary to high blood pressure or hypertension
- Heart failure - a clinical syndrome caused by the inability of the heart to supply sufficient blood to the tissues to meet their metabolic requirements
- Pulmonary heart disease – a failure at the right side of the heart with respiratory system involvement
- Cardiac dysrhythmias – abnormalities of heart rhythm
- Inflammatory heart disease
- Endocarditis – inflammation of the inner layer of the heart, the endocardium. The structures most commonly involved are the heart valves.
- Inflammatory cardiomegaly
- Myocarditis – inflammation of the myocardium, the muscular part of the heart, caused most often by viral infection and less often by bacterial infections, certain medications, toxins, and autoimmune disorders. It is characterized in part by infiltration of the heart by lymphocyte and monocyte types of white blood cells.

- Eosinophilic myocarditis - inflammation of the myocardium caused by pathologically activated eosinophilic white blood cells. This disorder differs from myocarditis in its causes and treatments.

Result:

The study showed a prevalence of 9.9% for overweight with female students having much predominance. From the study it was revealed that the prevalence of consumption of fast foods was 66.7 % among the fresh undergraduate students culminating from rigorous academic activities which prevent them from time to prepare their diet of choice, hence predisposing them to fast food consumption. A prevalence rate of 1% was adduced to smoking among the freshmen while alcohol consumption prevalence was 6%. Engagement in physical activity was 81.7% with more than 66.6% engaging in one form of activity at least six times in a week. Also, elevation of systolic blood pressure was found among 6.8% while the elevation of diastolic blood pressure was found among 5.2%. No case of diabetes mellitus among the participants. In the study, there was a low risk for CVD considering the obesity among the freshmen which constitutes only 0.5%.

Conclusion:

Fresh male undergraduates were at risk of CVD than their female counterparts concerning the LDL, smoking habit, blood pressure and alcohol consumption prevalence. The study recommended the establishment of health enlightenment campaigns in higher institutions to educate first-year students on strategies for disease prevention and to ensure early detection of risk factors through improved health screening at the university health center.