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Incidence and pattern of cardiovascular disease in a Nigerian teaching hospital

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SUMMARY Epidemiological data on cardiovascular disorders are generally lacking in the developing nations. The aim of this study was to assess the five years' incidence and pattern of cardiovascular disease in a Nigerian Teaching Hospital. The records of patients diagnosed as having various cardiovascular disorders between 1997 and 2001 were scrutinized. Data such as age, sex, diagnosis, length of hospitalization and status at discharge (dead or alive) were obtained. A total number of 1104 patients were recorded. Heart failure (35%) followed by hypertension (32%) was found to be the most prevalent.

Introduction

Cardiovascular disorder is the most frequent cause of adult death in industrialized societies and it is increasingly important in developing countries.¹

Cardiovascular disease is not an actual disease in itself; rather, it refers to a wide range of disorders affecting not only the heart but also the blood vessels. It includes hypertension, coronary heart disease, stroke, heart failure, peripheral vascular disease, myocardial infarction, rheumatic heart disease, cardiomyopathies and congenital heart disease.

Among all these, coronary heart disease is reported to be the leading cause of death and disability in the United States for both men and women.² Data on the incidence and pattern of cardiovascular disease are lacking in Nigeria. Hence, experts have to rely on data published abroad. The foreign data may not be relevant or helpful for Nigeria as it may be an under- or overestimate of the Nigerian situation. This dearth of data served as impetus for this study. It is believed that the outcome of this study would make the clinicians more sensitive to the cardiovascular conditions of Nigerians. This will in turn improve the management of cardiovascular disorders. Furthermore, the outcome of this study will provide baseline data, which could be used for future studies.

Methodology

This study was conducted in Obafemi Awolowo University Hospital Complex, Ile-Ife, Nigeria. The teaching hospital was founded on integrated comprehensive healthcare services based on a pyramidal structure designed to secure excellent and efficient health-care services. The institution

provides health-care services to more than 10 million Nigerians in the South West Zone of Nigeria. It covers Ondo, Osun, Oyo, Ekiti, Edo and part of Kwara States.

The records of patients diagnosed and admitted as having various cardiovascular diseases during the period of five years (1997-2001) were obtained from the statistical unit of the medical record of the institution.

Data collected from the patients' files include:

- distribution of various cardiovascular disorders
- age, sex, occupation, length of hospitalization, medical treatment given during the period of hospitalization, referral for physiotherapy, and status at discharge (dead or alive).

Descriptive analysis was used to analyse the data.

Result

A total number of 1104 patients were recorded. Those with heart failure had the highest occurrence, 384 (35%), followed by hypertension, 353 (32%), and cardiovascular (stroke) accident, 62 (5.6%), rheumatic heart disease, 18 (1.6%), and congenital heart disease having the lowest,

Table 1 Distribution of various cardiovascular disorders in the period 1997-2001 (N=1104)

Conditions	No. of cases (%)	No. of deaths recorded (%)
Heart failure	386 (35.0)	95 (8.6)
Hypertension	353 (32)	43 (3.9)
Stroke	192 (17.4)	74 (6.7)
Cardiomyopathies	84 (7.6)	19 (1.7)
Rheumatic heart diseases	18 (1.6)	3 (0.3)
Congenital heart disease	9 (0.8)	1 (1.0)
Others	62 (5.6)	8 (1.5)
Total	1104 (100)	252 (22.8)

9.0 (0.8%), cases (Table I). Men, 671 (60.8%), were found to be having higher incidence of cardiovascular disorders than women. 633 (39.2). The age groups of the patients as recorded were as follows: 60-69 years (19.8%), 50-59 years (18.4%), and 40-49 years (14.3%).

The result showed a steady decline in the incidence of cardiovascular disease from 1997 (27.3%) to 2001 (12.1 %).

On average, 50% of the patients spent at least two weeks in the hospital. About 252 (22.7%) of patients died in the course of hospitalization. The number of patients who survived was found to be improving from 1998 to 2001 (5.3% to 3.1%).

The major treatment given to the patients was chemotherapy followed by surgery and physical therapy. Only 101 (9.2%) of the patients were referred for physiotherapy and these were mainly stroke patients. The incidence of stroke was surprisingly low, contrary to our expectation. This may be as a result of improved medical management of hypertension, the major cause of stroke and change in the life style of Nigerians.

Discussion

The study revealed various cardiovascular diseases suffered by the Nigerians. Heart failure, closely followed by hypertension, is the most prevalent cardiovascular disease recorded, while congenital heart disease is very rare. The work of Trigo³ among Cubans revealed contrary reports. Hypertension followed by ischaemic heart diseases formed the highest incidence of cardiovascular diseases in Cuba. In Nigeria, the awareness of hypertension is increasing and the government policy against tobacco may have caused a decrease in the incidence of hypertension. However, many hypertensive patients seldom visit hospital for medical check-up. This is because the condition is usually symptomless.⁴

Chronic heart failure is the leading cause of cardiovascular disease and it is the condition that recorded the highest death rate. This finding corroborated the reports of the American Heart Association.⁵

It stated that the incidence of congestive heart failure (CHF) and the resulting death rate have risen significantly in recent decades. The reason cited was the aging of the population. Our work found the highest incidence to be in the age group of 60-69years. Over four million Americans are said to be suffering from chronic heart failure. There are many causes of CHF. These include left ventricular dysfunction, coronary artery disease, hypertension, idiopathic dilated cardiomyopathy. CHF patients usually experience dyspnea, fatigue during little exercise, lowered oedema, and cardiac arrhythmias.⁶

A sex ratio of 1.5:1 male:female was recorded in this study. This figure is in accordance with the work of Trigo.³ Many factors may have caused the high incidence of cardiovascular disorder in men, who tend to smoke and drink alcohol more than women.

Other researchers also confirm a reduction in the incidence of cardiovascular diseases over the period of five years covered by this study. For example, Alexander/ reported that cardiovascular disease is the leading cause of death in Ireland accounting for 42% of all death, but that the total figure has fallen by almost a quarter. The decline in the incidence and mortality would be explained on the basis of improvement in health-care management, increased awareness against the risk factors, and change in lifestyle of the people.

The physicians, as found in this study, referred few patients for physical therapy. The awareness of the importance of physical therapy in the management of these conditions is still lacking in the Nigeria doctors. Many still believe that exercise training may exacerbate the symptoms in patients suffering from heart problems. Early studies focused on the use of total bed rest in the treatment of such patients.^{7,8} However, recent studies have shown that various programmes of exercise training will be beneficial to the patients.^{9,10}

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