



Pattern of cardiovascular disease admissions in the medical wards of the University of Port Harcourt Teaching Hospital: a retrospective review

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ABSTRACT

Background: Cardiovascular disease as a leading contributor to global disease burden has shown an increase in its prevalence since the 19th century and was responsible for the global mortality of 17.5 million individuals in the year 2005. This has been linked to increasing urbanization and westernization of life style particularly in the sub-Saharan Africa. Hence, a study on the pattern and trend of cardiovascular disease admission in Port Harcourt an urban and a cosmopolitan city in Nigeria becomes important as such knowledge will influence Health care policy making and budgeting. This study is aimed at determining the frequency and the pattern of cardiovascular disease admissions in University of Port Harcourt Teaching Hospital.

Method: A retrospective study of adult patients with diagnosis of cardiovascular disorders admitted into the medical wards of UPTH between January 2013 and December 2014 was carried out using the ward admission and discharge register.

Results: A total of 1989 patients were admitted into the medical ward over the period of this study. Patients with cardiovascular disorders were 629 constituting 31.6% of the total admission. 346(55.01%) of the study population were females with males constituting 44.99%. The ages ranged between 20 and 94 years with a mean of 56.04 for males and 55.12 for females. The pattern of CVD observed in this study were heart failure (43.1%), cerebrovascular accident (CVA) (24.3%), diabetes and its complications (15.6%), uncontrolled hypertension (14.8%), acute MI (1.6%), symptomatic bradycardia (0.3%), acute pericarditis (0.2%) and ventricular tachycardia (0.2%). The death rate was found to be 12.2%.

Conclusion: Heart failure and cerebrovascular accident are major causes of cardiovascular admissions in the medical wards of University of Port Teaching Hospital. Early detection, appropriate management as well as patient education will go a long way to reduce the morbidity and mortality caused by this rising trend.

KEY WORDS: Cardiovascular disease, pattern, medical admissions, UPTH



INTRODUCTION

Cardiovascular disease (CVD) is the leading cause of death worldwide.¹ The prevalence of CVD has been shown to be on the increase since the 19th century. In 2001 it was responsible for 16 million deaths worldwide with an estimated global mortality of 17.5 million documented in 2005 to be due to CVD.² It has also been estimated that by 2030, 23.3 million people will die from CVD annually which is a major public health concern.³ In Africa, CVD accounted for 7-10% of all adult medical admission with 3-7% being from heart failure.⁴⁻⁵ In a study from South Africa, CVD was identified as the second leading cause of mortality after HIV, accounting for about 40 % of mortality in adults.⁶ The common CVDs seen in adults include coronary heart disease, stroke, hypertensive heart disease, heart failure, and arrhythmias.⁷ Reports on the pattern of CVD vary in different geographical areas. In the developed countries, coronary heart disease is a leading cause of CVD while in the developing countries there is a high prevalence of hypertension and cerebrovascular accident.⁸ This study is aimed at determining the frequency and the pattern of cardiovascular disease admissions in University of Port Harcourt Teaching Hospital (UPTH).

METHODOLOGY

A retrospective study of patients with diagnosis of cardiovascular disorders admitted into the medical wards of UPTH between January 2013 and December 2014. The hospital is a tertiary institution that serves as a major referral centre for neighbouring states. The data was collected from the ward admission and discharge register. Details obtained include age, sex, diagnosis, outcome and comorbidities. All cases were diagnosed by a physician using clinical features, investigations which included ECG and Echo findings. Data was analyzed using SPSS version 17.0 and results are presented as simple frequencies and tables. Cardiovascular diseases are diseases of the heart (cardiac muscle) or blood vessels (vasculature) that may or may not be associated with or caused by atheroma.²⁶

RESULTS

A total of 1,989 patients were admitted into the medical wards over the period of this study. Patients with cardiovascular disorders were 629 constituting 31.6% of the total admission. 346 (55%) of the study population were females with males constituting 283 (44.99%) with a male to female ratio of 1:1.2. The ages ranged between 20 and 94 years with a mean of 55.67±15.43 years. The mean age was 56.04 ±15.46 years for males and 55.12±15.39 years for females with a p-value of 0.928. The commonest age range was 60-69 years (24.5%). The pattern of CVD observed in this study were heart failure (43.1%), cerebrovascular accident (24.3%), diabetes and its complications (15.6%), uncontrolled hypertension (14.8%), acute MI (1.6%), symptomatic bradycardia (0.3%), acute pericarditis (0.2%) and ventricular tachycardia (0.2%). Of the 629 cases of CVD seen, 536 (85.2%) of them were discharged home after treatment. Thirteen (2.1%) signed against medical advice. Outcome for 3 patients (0.5%) was unknown. Seventy seven of the patients died giving a case fatality rate of 12.2%.

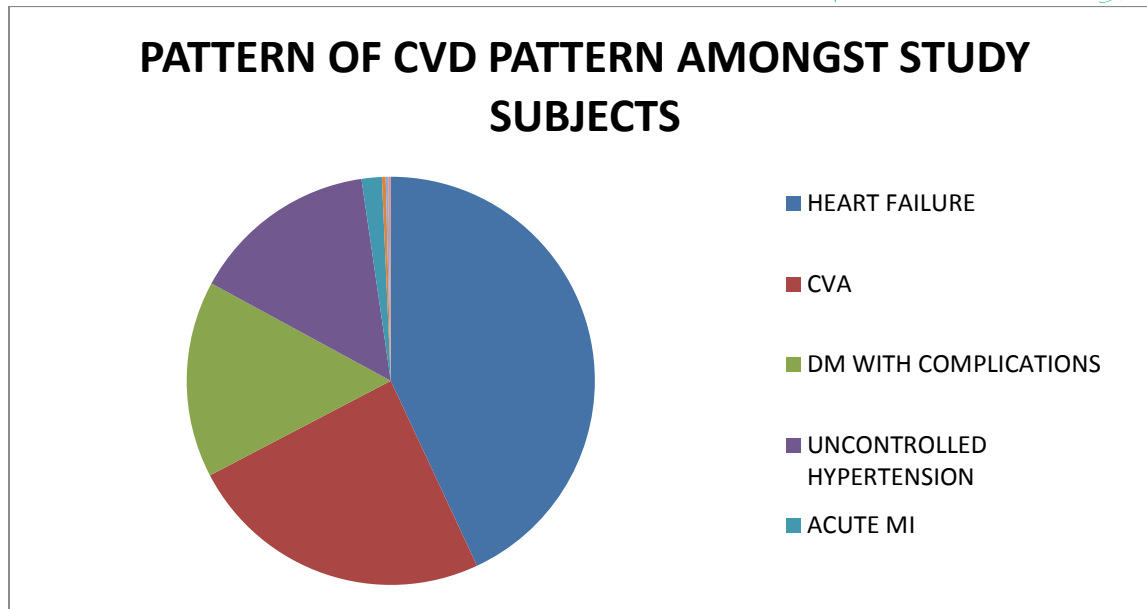


Figure 1. Pattern of cardiovascular disease

Table1. Characteristics and Outcomes of Patients with CVD

Characteristics	Number	Percentage
Age Range		
20-29	27	4.3
30-39	76	12.1
40-49	97	15.4
50-59	147	23.4
60-69	154	24.5
70-79	91	14.5
80-89	29	4.6
>90	8	1.3
Sex		
Male	283	44.99
Female	346	55.01

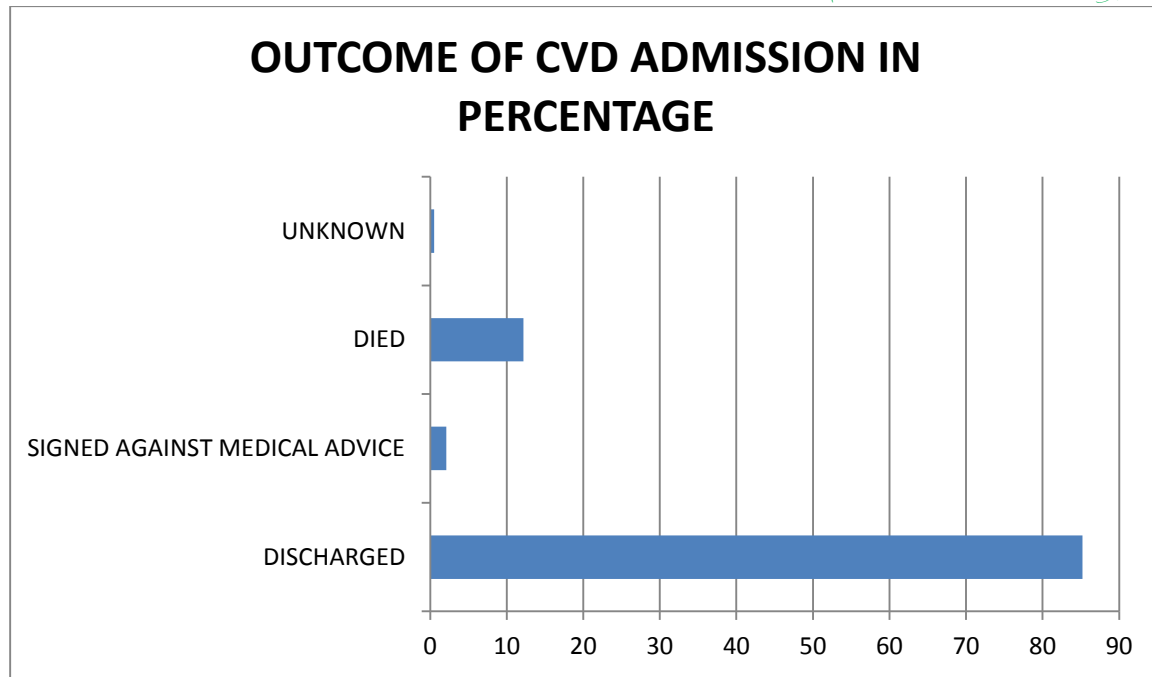


Figure 2. Outcome of cardiovascular disease admission

Discussion

Increasing urbanization and westernization has led to increase in non-communicable diseases (NCDs) in Sub-Saharan Africa. Cardiovascular disease constitutes a high proportion of the-NCDs.⁹⁻¹⁰ A study of the pattern of these CVDs is important as such knowledge will influence health care policy making and budgeting. This study reveals that 31.6% of the medical admissions at UPTH within the period of study were due to CVDs. This is similar to the 30.3% reported by Osuafor and Ele in a tertiary hospital in Nnewi, Southeastern Nigeria but higher than the 18.8% reported by another author.¹¹⁻¹² In an earlier study done in Port Harcourt, Unachukwu *et al.* reported that 35.7% of the NCDs were due to CVDs.¹³ All these point to the high prevalence of cardiovascular diseases and hence call for urgent intervention.

Age is an important non-modifiable cardiovascular disease risk factors as cardiovascular deaths are more common in the elderly. In our study, more than 60% of the study subjects were 50 years and above similar to the findings by Osuji *et al.* who reported the commonest age range to be above 50 years.¹⁴ This is not surprising as CVDs have always been associated with increasing age. In agreement with the findings by other authors, the mean age of the study population was 55.67 ± 15 .¹⁴⁻¹⁵

This study further revealed that heart failure constituted 43.1% of the total cardiovascular admissions during this period of study similar to the 44.3% reported by Ansa *et al.*¹⁵ Works by



other authors also illuminates this finding that heart failure is a major and an important cause of cardiovascular admissions in the medical ward.^{11,14,16} These high prevalence rates of heart failure can be attributed to the high burden of hypertension, cardiomyopathy and rheumatic heart diseases in sub-Saharan Africa which are important contributors to the burden of heart failure. The lack of awareness of the symptoms of heart failure, late presentation and poor control of the hypertension all contribute to high disease burden.

Cerebrovascular accident was the second highest in this study with a prevalence of 24.3%. This is lower than 46.7% reported by Osuji et al in which it ranked first in their study.¹⁴ Ansa et al had also reported a high prevalence of stroke.¹⁵ This high prevalence as reflected in the various studies may highlight the need for better control of risk factors for stroke of which hypertension and diabetes chiefs. Publication education is one of the interventions for risk factor control.

Patients admitted for hypertension without associated complications made up 14.8% of the population which is higher than previously reported 10%². However, Unachukwu et al reported in 2008 that hypertension and hypertensive heart disease together made up 79% of the CVDs in their study in the University of Port Harcourt Teaching Hospital while Oguanobi et al reported 86.36 % prevalence of hypertension and its complication in a regional teaching hospital in South-eastern Nigeria.^{13,17} This high prevalence may be attributed to lack of awareness and poor treatment in our environment as reported by Ulasi *et al.* in Enugu, Nigeria.¹⁸ This greatly underscores the importance of more deliberate public enlightenment.

The death rate of 12.2% with a greater than 75% discharge rate amongst the cardiovascular disease patients in this study is in tandem with works by other authors.^{15,19}

CONCLUSION

This study has shown a high prevalence of cardiovascular disease admissions in the medical wards of UPTH. Additionally, heart failure and cerebrovascular accident (stroke) are major causes of cardiovascular admission in the medical wards of UPTH as depicted in this study. More efforts at primary prevention and CVD risk factor control will be more rewarding especially in our setting.

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