



Research article

## The burden of cardiovascular risk factors in hypertensive patients with other co-morbid chronic disease conditions at a teaching hospital in north-east Nigeria

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**Key words:** Cardiovascular disease, Cardiovascular risk factors, Chronic diseases, Hypertension, Co-morbid diseases

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### Abstract

**Background:** Unidentified or untreated risk factors affect quality of life and cause other negative health outcomes in chronic diseases. **Objectives:** The objective was to identify the burden of both modifiable and non-modifiable risk factors. **Methods:** The cross-sectional observational and prospective study involved a scientific sampling of patients with chronic illness. The most recent laboratory data were retrieved from patients' case notes during each clinic visit. **Results:** About 56.7% patients had co-morbid diseases. Family histories of co-morbid diseases are highest in hypertension/stroke (16.8%) and lowest in Hypertension /Congestive heart failure (CHF) (2.1%). Incidences of HTN/CHF and HTN/Diabetes are equal (15.3% each) while HTN/Stroke (8.2%), HTN/Angina (1.1%), HTN/chronic Kidney disease (2.2%) and HTN/arrhythmias (2.2%) were identified. The fasting blood glucose levels were in diabetic range in 20.5% patients but in impaired range in 22.0%. BMI are in overweight (25.4%), obesity (18.5%) and underweight (13.5%) ranges. The BP is not controlled in 55.8% and 1.87% patients have isolated systolic BP. The lipid profiles were high in LDL-cholesterol 9 (10.1%) and Triglycerides 78 (29.0%) but low HDL-cholesterol occurred in 15 (17.0%) cases. The total risk factors ranges from one 5 (1.8%) to nine 4 (1.4%). In 44.4% risk factors are up to three and 55.6% had above three risk factors. **Conclusion:** Multiple cardiovascular risk factors and co-morbid diseases were present. Modifiable risk factors like BP, blood glucose and cholesterol are not within controlled range in many patients. Risk factors associated with tobacco and alcohol use were low while that of physical inactivity was high. Many patients with high burden of risk factors require monitoring, counseling and education.