SUMMARY

Background: Hypertension (HBP), a sustained elevation in the blood pressure of an individual above that which is considered normal, is an important health issue in the developed and developing nations. It has been referred to as a “silent killer” because it often has no detectable symptoms while causing continuous and progressive damage to vital (target) organs in the body. Most hypertensive patients go through a stage termed pre-hypertension defined as systolic BP (SBP) of 120-139mmHg and/or diastolic (DBP) of 80-89mmHg in adults 18 years and above. It emphasizes the risk associated with BP in this range and focuses on the need for increased clinical and public health attention since individuals with pre-hypertension are at increased risk of developing clinical hypertension compared with people of lower BP levels. Many disorders such as HBP occur with greater risk in obese people. Data has shown association of obesity with HBP, DM and dyslipidaemia under the umbrella disorder called metabolic syndrome. This shows that obesity and HBP frequently co-exist and may point to common lifestyle practices associated with metabolic syndrome.

Aim: This study was designed to assess the pattern of pre-hypertension and its associated risk factors among adult obese patients attending the General Out-patient Clinic (GOPC) of Federal Medical Centre, (FMC) Owerri, with a view to recommending measures for early detection, management and ultimate reduction in the burden of HBP among the study population.

Materials and methods: This was a hospital based cross-sectional study involving 384 obese patients that were consecutively recruited. The study lasted for three months. Relevant data on demographic features and risk factors of pre-hypertension were obtained using 384 pre-tested, interviewer administered questionnaires while the anthropometric indices, blood pressure and plasma lipid profile were done using standard clinical measurements. Data was analyzed using Statistical Package for Social sciences version 15.

Results: Majority of the subjects were females (68.0%) with a male to female ratio of 1: 2.1, belonged to 50-59 years (25.5%) age group, were civil servants (38.6%), Ibos (94.0%), Christians (92.2%), married (75.8%), of middle socio-economic class (82.3%) and had tertiary level of education (85.7%). The prevalence of pre-hypertension among the study population was
43.0%. Total Cholesterol ($\chi^2 = 24.91, p < 0.0001$), High Triglyceride level ($\chi^2 = 16.65, p < 0.0001$), Low HDL-C ($\chi^2 = 62.62, p < 0.0001$), elevated LDL-C ($\chi^2 = 19.3, p < 0.0001$), cigarette smoking ($\chi^2 = 57.13, p < 0.0001$) and inadequate physical activity ($\chi^2 = 76.51, p < 0.0001$) were associated risk factors of pre-hypertension on bivariate analysis.

**Conclusion:** This study has demonstrated a more common pattern of combined systolic and diastolic pre-hypertension with a considerable prevalence among adult obese patients in an African community. It also showed a direct relationship between pre-hypertension and obesity. Dyslipidaemia, cigarette smoking and inadequate physical activity were noted to have significant association with pre-hypertension on bivariate analysis.

The study recommended routine screening of the obese patients for pre-hypertension and a comprehensive health education on healthy lifestyle practice such as regular physical activity for its prevention.