METABOLIC SYNDROME AND CARDIO METABOLIC RISK FACTORS IN A SEMI URBAN SETTLEMENT IN NORTHERN NIGERIA; A COMMUNITY SURVEY.

S. Muazu1,2, H. Ibrahim3, M.B. Ahmad4, H. Bako5.
1Ahmadu Bello University, Internal Medicine, Zaria, Nigeria.
2Rasheed Shekoni Specialist Hospital, Dutse, Nigeria.
3Federal Medical Centre, Internal Medicine, Birnin Kudu, Nigeria.
4College of Health Sciences-Bayero University Kano, Chemical pathology, Kano, Nigeria.
5Rasheed Shekoni Specialist Hospital, Chemical pathology, Dutse, Nigeria.

BACKGROUND
Metabolic syndrome is a cluster of cardio metabolic risk factors in an individual including obesity, dyslipidemia, glucose intolerance and hypertension that predisposes one to cardio vascular event and or T2DM with poor outcome.[1] This syndrome is thought to be commoner among urbanized societies due to influence of bad lifestyle practices among the populations.

AIM
The study was aimed to determine the prevalence and determinants of metabolic syndrome among the inhabitants of a small semi urban community in northern Nigeria.

METHODS
A cross sectional study conducted in a small semi urban community located near a city in northern Nigeria that saw rapid urbanization in recent years. The subjects comprise of artisans, lower cadre public servants and peasant farmers. Two hundred and sixty two subjects were recruited using convenient sampling technique of consenting adults. Ethical clearance was sought and given by the state ministry of health. At first visit all subjects had their personal and medical history recorded anthropometric and blood pressure measurements were recorded. Subsequently, subjects were asked to fast the following visit and venous blood sample was collected for the determination of blood glucose, lipids, PSA and thyroid function. Blood glucose, cholesterol, thyroid hormones and PSA were determined using glucose oxidase, enzymatic and ELISA methods respectively.

IDF ethnic specific criteria for the diagnosis of metabolic syndrome was used [1]
The data was collated and analyzed using SPSS 23 involving student T-test and regression analysis p<0.05.

RESULTS
A total of 262 subjects were screened mean age 29.9 (9.4) years comprising 197 males and 65 females (M:F = 3:1)
Risk factors found were; obesity 8.4%(22/262), glucose intolerance 11% (29/262), hypertension 18.3% (48/262), Low HDL 29.4% (77/262) and High TGD 7.6% (20/262).
The prevalence of metabolic syndrome was found to be 6.9% (18/262) comprising 13 females (72%) and 5 males (28%) (p<0.05)
The means of Age, SBP, DBP, TC, FBG and HBA1c 36.2(8.6), 130(21.7), 85(11.4), 4.44(1.38), 5.1(2.1) and 7.3(2.4) were found to be significantly higher among those with metabolic syndrome than in normal group. p<0.05 However, the mean HDL 1.49(0.31) in metabolic syndrome group is higher than in normal group 1.31(0.39), p<0.05.
The means of LDL, TGD and TSH were higher in metabolic syndrome while PSA values were low. p>0.05. Regression analysis reveals that history of diabetes and hypertension in the subject, family history of hypertension, total cholesterol and increasing age were associated with metabolic syndrome. Chi square >1.0 and p<0.05.

DISCUSSION
In this study the prevalence of metabolic syndrome is 6.9%, commoner in aged and females. Our findings is in concordance with a study by Summer et al where they found low incidence of metabolic syndrome among blacks compared with Caucasians (2) The commonest components that constitute the diagnosis were obesity, glucose intolerance and hypertension. This is in agreement with high incidence of obesity, diabetes and hypertension among blacks particularly the females as documented in previous studies. [3, 4]
The HDL levels were low while high levels were observed in those with metabolic syndrome. This pattern of dyslipidemia was earlier reported among blacks population.[5]
It is concluded that the prevalence of metabolic syndrome is high and health education that will promote good lifestyle practices among the people be encouraged. The paradoxical rise in HDL values among those with metabolic syndrome be further explore with the aim of revisiting the cut-off levels used for diagnosis of metabolic syndrome in this community.

REFERENCES
2. Summer AE, Jie Zhou MS, Ayo Doumatey, Imoisili OE, Amoah A et al. Low HDL-C with normal triglyceride levels is the most common lipid pattern in the West Africans and American with metabolic syndrome: implications for cardiovascular disease prevention. CVD Prev Control. 2010, Sep1; 5(3):75-80.

CONFLICT OF INTEREST
I have no potential conflict of interest to disclose.