INTRODUCTION: Undoubtedly, obesity and diabetes mellitus have established negative impact on the health and well-being of the human race all over the world. Obesity has been shown to have a hand in nearly every pile of major non-communicable chronic diseases of the human race in the twenty first century. This disorder is now one of the most important factors contributing to the overall disease burden globally, among which diabetes mellitus is prominent. Diabetes mellitus remains one of the most important non-communicable diseases in Nigeria today. Overweight and obesity are significant risk factors for type 2 diabetes mellitus. Literatures are replete with reports to support this assertion. Unfortunately there is a dearth of such materials in this part of the country. This study is partly an effort to fill this vacuum.

OBJECTIVE: The study was undertaken to determine the prevalence of overweight, obesity and type 2 diabetes mellitus and the relationship between overweight/obesity and type 2 diabetes mellitus in adult patients seen at the Federal Medical Centre, Bida in Niger state. It was also aimed at exploring the patterns of the relationship between type 2 diabetes mellitus and its known risk factors on the one hand, and that between overweight/obesity and their known risk factors on the other hand, in the adult patient population in our centre.

METHOD: The study was descriptive cross–sectional in design. A systematic sampling technique was used to select the subjects after a simple random selection of the first subject. A total of 480 respondents were selected for the study over 3 months. Data collection was done through the use of structured questionnaires to obtain information on the socio-demographic characteristics such as age, gender, educational and marital status; lifestyle information such as occupation, food habit, leisure time physical activity, alcohol, kolanuts and tobacco usage; anthropometric measurements for weight and height measurements used in body mass index calculation; as well as the use of fasting plasma glucose. Two fasting plasma samples obtained at one week interval, from each of the respondents who had not been diagnosed diabetic and were not already on drugs for diabetes mellitus were analysed for plasma glucose. The subjects were classified as diabetic or non-diabetic based on their fasting plasma glucose level and on whether or not they were known diabetics and were already on drugs for diabetes. They were also classified as either obese, overweight, normal weight or underweight based on their body mass indices which were calculated from their weight and height measurements using the formula: weight (in kilogrammes) divided by height (in metre squared). The prevalences of overweight and obesity were calculated in the total sample and separately for diabetic and non-diabetic males and females. Data analysis was done using the 19th version of Statistical Package for Social Scientists software package. Tables, bar charts, frequencies, percentages and means were used to
describe the data. Chi-square \((X^2)\) test was used to test the level of statistical significance of the differences between categorical variables.

**RESULTS:** The overall prevalences of obesity and overweight were 19.4% and 25.4% respectively and combined prevalence as 44.8%. The prevalences of obesity and overweight in males were 8.0% and 23.3% respectively, while in females the prevalences were 26.0% and 26.7% respectively. The overall prevalence of diabetes mellitus was 10.2% while the male and female sex prevalences were 10.8% and 9.9% respectively. About 77.6% of the diabetic population were either obese or overweight. The prevalence of obesity was significantly higher in diabetic (44.9%) than in non-diabetic population (16.5%). Same for overweight: 32.7% (among diabetics) and 24.6% (in non-diabetic population). Also the prevalence of diabetes mellitus was significantly higher among the older subjects, those with family histories of obesity and diabetes mellitus as well as those with diabetic first degree relatives. Similarly, the prevalence of overweight and obesity was significantly higher among the older subjects, the females, the Yorubas, those with family histories of obesity and hypertension, those with obese first degree relatives and those who ate non-balanced diet. It was also higher among those who were physically inactive. Out of the 49 identified diabetics, 20 (40.8%) were newly diagnosed.

**CONCLUSION:** The prevalences of overweight, obesity and type 2 diabetes mellitus in the study population were relatively high. These disorders were significantly associated with both modifiable and non-modifiable risk factors. There was a positive relationship between overweight/obesity and type 2 diabetes mellitus with the obese and overweight subjects more likely diabetic than their normal weight counterparts. A significant number of the diabetics in Bida were undiagnosed.

Health education on overweight and obesity including education on lifestyle modification are recommended in the management of these disorders.