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Dietary habits and metabolic risk factors for non-communicable diseases in a university undergraduate population

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Abstract

Background: Unhealthy dietary patterns are associated with metabolic changes and increased risk of noncommunicable diseases (NCDs), but these associations have not been investigated in representative populations of university undergraduates in low-to-middle income countries (LMICs).
Methods: This study was conducted in the three universities in Lagos State, Nigeria to assess the dietary pattern and metabolic risk factors of NCDs among university undergraduate population. Multistage sampling technique was used to select 506 undergraduates from the universities. Pre-tested questionnaire was used to obtain data on sociodemographic characteristics and dietary patterns. Body mass index and metabolic risk factors (abdominal obesity, dyslipidemias, high blood pressure and hyperglycemia) were assessed following standard procedures. SPSS (version 20) was used for data entry and analysis. Association between variables was determined using chi-square and Fisher's exact tests.
Results: The mean age was 20.3 ± 3.5 years; 54.7% of them were female. More than one third (37.6%) had no consistent source of income or received less than N10, 000 ($31.7) per month. Less than one third (31.0%) ate three daily meals, 23. 0% ate breakfast regularly, and only 2% consumed the recommended daily amount of fruits and vegetables. Almost half (44.0%) ate pastry snacks daily. Refined rice was the commonest cereal (28.2%) consumed while meat was more commonly consumed daily (32.0%) than milk (14.0%) and fish (10.0%). Twenty-nine (29.0%) and 6.2% of the population daily consumed carbonated soft drinks and alcohol, respectively. Prevalence of abdominal obesity (based on waist circumference) was 5% (1.3% in males and 8.4% in females), dyslipidemias (57.3%), pre-hypertension (8.2%), hypertension (2.8%), and pre-diabetes (1.0%). Obesity was positively associated with consumption of alcohol ($\chi^2 = 13.299$, $p < 0.001$).
Conclusion: Unhealthy diets and metabolic risk factors of non-communicable diseases are prevalent in the undergraduate population studied. Well-recognized recommendations regarding adequate consumption of fruits, vegetables, fish, and whole grains should be emphasized in a targeted manner in this population. Carbonated soft drinks and alcohol consumption should be discouraged to stem a rising tide of metabolic risk factors for non-communicable diseases among undergraduate students.

Keywords

Dietary pattern; Metabolic risk factors; Non-communicable diseases; University undergraduate students; Nigeria