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Dysglycaemia and its risk factors in an urban Fulani population of northern Nigeria

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Abstract

Background: The Fulani are a normally nomadic people known for covering great distances on foot with a resulting lean physique and presumably low incidence of diabetes mellitus (DM). The occurrence of glucose intolerance among the urban Nigerian Fulani has not been reported.

Objective: To determine the prevalence of dysglycaemia and its correlates among urban Fulani.

Methods: Three hundred and eighty-nine Fulani were recruited from urban areas of Sokoto state using a multi-stage sampling technique. Using a modification of the WHO STEPS instrument, information on socio-demographic and anthropometric data was gathered. Either casual or fasting plasma glucose was obtained in all subjects while oral glucose tolerance test (OGTT) was performed in a randomly selected subset of 48 subjects. Glucose intolerance or dysglycaemia was defined using WHO criteria as the presence of diabetes mellitus, impaired fasting glycaemia (IFG) or impaired glucose tolerance (IGT). Classifications of adiposity as body mass index (BMI) and waist circumference (WC) and blood pressure were made using standard criteria.

Results: Of the 389 subjects studied, 190 (48.8%) were females while 199 (51.2%) subjects were males (c2=5.43, p> 0.05). The overall mean (SD) age of the sample population was 39.3 (14.2) years with the males [42.0 (13.8) years] being significantly older than the females [36.4 (14.1) years], p< 0.05. Eighteen (4.6%) subjects had previously undiagnosed type 2 diabetes mellitus while 37(16.9%) of the subjects had IFG and seven (14.6%) subjects had impaired glucose tolerance. The mean FPG was higher in the males [5.49 (1.7) mmol/l] than in the females [5.25 (1.9) mmol/l],p=0.33. The overall mean two-hour plasma post glucose-load was 6.5 (1.6) mmol/l; higher in the males [6.9 (2)] mmol/l than in the females [6.2 (1) mmol/l] , p=0.55.The mean age, BMI, waist circumference and blood pressure of subjects with dysglycaemia were significantly higher than those in subjects with normoglycaemia (p<0.05).

Conclusion: Prevalence of dysglycaemia in the urban Fulani population of Northern Nigeria is high and much higher in the male than female Fulani. Occurrence of obesity and hypertension appears lower than in other Nigerian reports. Occurrence of dysglycaemia in the urban Fulani increases with age, weight and waist circumference. There is need to conduct a similar study among rural Fulani to better appreciate the environmental influence on these variables.

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