

**ASSOCIATION OF DIETARY NUTRIENT INTAKE AND BODY MASS INDEX  
AMONG NEWLY DIAGNOSED TYPE 2 DIABETES PATIENTS ATTENDING  
DIABETIC CLINICS IN KAMPALA DISTRICT.**

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## **ABSTRACT:**

**Background:** Overweight and obesity are significant risk factors for majority of complications among type 2 diabetes patients. With the need of prevention of diabetes related complications, dietary measures for body mass index control during early stages of diabetes diagnosis are indispensable. Examining how the different dietary nutrients are associated with body mass index will potentially yield information on dietary management of overweight and obesity among type 2 diabetes patients.

**Objective:** This study aimed to establish the association between dietary nutrient intake and body mass index among newly diagnosed patients with type 2 diabetes attending diabetic clinics in Kampala, Uganda.

**Methods:** A cross sectional study among 200 newly diagnosed type 2 diabetes patients in two major diabetic clinics in Kampala district between April and May 2016 was conducted. Social demographic, physical, biochemical and clinical measurements as well as dietary nutrient intake data were collected using pre-tested social demographic and 24-hour food recall questionnaires respectively. Data on dietary nutrient intake was analysed using DietOrganiser® software and was transferred to STATA version 13 for full analysis. Patient dietary nutrient intake was divided into quintiles. Linear regression at 95% Confidence Interval was used to determine the statistical significance of the association between the different dietary nutrient quintiles with body mass index.

**Results:** Of the total number of patients, 31.5% were found overweight while 27% were obese. The average energy intake was  $1960.2 \pm 594.6$  kilocalories/day. Carbohydrate, protein and fat contributed 73%, 12.6% and 14.4% of the daily energy consumption. There was an inverse association between protein intake and body mass index after adjusting for independent variables. The study findings showed a positive association between carbohydrate intake and body mass index after adjusting for independent variables. Fibre, fat, saturated fat, polyunsaturated fat and monounsaturated fat were not significantly associated with body mass index.

**Conclusion and Recommendations:** Findings suggest that increased intake of protein is associated with lower body mass index whereas increased carbohydrate intake is associated with higher body mass index. Regular inclusion of adequate amounts of protein foods should be

encouraged for overweight and obese type 2 diabetic patients. This study highlights the importance of dietary carbohydrate reduction for the control of body mass index in these patients.