
Dietary carbohydrate and fat intake are associated with increased percentage of glycated hemoglobin in patients with newly diagnosed type 2 diabetes mellitus: Evidence from a cross-sectional study

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Diet is one of the main factors in triggering glycemic parameters of patients with type 2 diabetes mellitus (T2DM). Present study aimed to determine the association between dietary intake and glycated hemoglobin (HbA_{1C}) in patients with newly diagnosed T2DM. The facts on dietary intake were collected using 24-hour recall from patients (n=158, age 30-60 years) with newly diagnosed T2DM who attended the University Medical Clinic, Karapitiya Teaching Hospital, Sri Lanka. Percentage of HbA_{1C} was estimated. Demographic, life-style and family history of diabetes data were collected. The patients were divided into quartiles of dietary intake to establish the associations of dietary intake with HbA_{1C}. Multiple linear regression at the 95% CI was used to assess the difference in average HbA_{1C} with quartiles of dietary intake with the adjustment for demographic, lifestyle and family history data and dietary intake variables. There were positive associations between daily dietary carbohydrate intake and HbA_{1C}, and between daily dietary fat intake and HbA_{1C}. Individuals in the 2nd, 3rd, and 4th quartiles of carbohydrate intake had on average HbA_{1C} of 0.312%, 0.376%, and 0.257% respectively compared to the individuals in 1st quartile ($p_{\text{trend}} = 0.039$). Individuals in the 2nd, 3rd, and 4th quartiles of fat intake had on average HbA_{1C} of 0.173%, 0.277% and 0.362% higher respectively compared to the individuals in 1st quartile ($p_{\text{trend}} = 0.012$). There were no associations of protein, fiber and glycemic load with HbA_{1C}. Higher carbohydrate and fat intake were associated with increased percentage of HbA_{1C} in patients with newly diagnosed T2DM.

Keywords: Carbohydrate intake, Fat intake, Glycated hemoglobin, Type 2 diabetes mellitus

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