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DIETARY MACRONUTRIENT INTAKE AMONG SRI LANKAN RURAL FEMALE TYPE 2 DIABETICS AND NON-DIABETICS AND EFFECT TOWARDS THE GLYCEMIC CONTROL

R.G.L Rathnayake, U.P.K Hettiartchi and P.P.R Perera

University of Sri Jayewardenepura, Sri Lanka

ABSTRACT

To avoid diabetic complications, diabetic subjects follow diet control, insulin or oral hypoglycemic medication to maintain fasting blood sugar (FBS) levels <140 mg/dl. This study was conducted to compare the macronutrient intakes among female type 2 diabetic and non-diabetic (ND) subjects and to determine the effect of diet on the glycemic control. From a Sri Lankan rural female population 29 type 2 diabetes mellitus (T2DM) [43 (±6) years] and 29 non-diabetic [39 (±5) years] subjects were recruited. A validated food frequency questionnaire was administered. Daily macronutrient intake was calculated using "NutriSurvey for Windows" software. Mean FBS level of T2DM subjects were significantly higher compared to non-diabetic subjects [FBS_{ND}= 86.0 (±15.7] mg/dl, FBS_{T2DM}= 138.2 [±53.3] mg/dl, P=0.000). Energy intake of T2DM population was significantly lower compared to non-diabetic subjects [T2DM=1478.6 (±489.2) kcal/day, ND=2032.3 (±597.0) kcal/day, P= 0.000]. Dietary protein [ND=51.5 (±23.9) g/day, T2DM=38.0 (±20.0) g/day, P=0.000], fat [ND=39.3 (±14.3) g/day, T2DM=29.9 (±13.4) g/day, P=0.000] and carbohydrate [ND=382.5 (±111.8) g/day, T2DM=270.8 (±23.9) g/day, P=0.000] intake levels were significantly higher in non-diabetic subjects. Fifty seven percent of T2DM subjects had FBS levels <140 mg/dl. FBS level of the whole population demonstrated weak negative significant correlations with daily energy intake (r= -0.223, P=0.044), dietary carbohydrate intake (r= -0.300, P=0.01) and protein intake (r= -0.219, P=0.048). T2DM subjects have maintained comparatively low energy intake by reducing daily dietary macronutrient intake and low calorie intake may have a positive effect towards maintaining the recommended FBS levels among this T2DM population to avoid complications associated with T2DM.

Keywords: Type 2 Diabetes Mellitus, Dietary Carbohydrate Intake, Dietary Protein Intake, Dietary Lipid Intake