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

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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

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at the

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