

Effect of Different Types of Commercially Available Dinner Food on Fasting Blood Glucose (FBS) Level and Triacylglycerol (TAG) Level

K.M.N.S. Bandara^{1*}, M.R.P.U. Bandara¹, P.T.S. Bandara¹, R.M.M.A. Bandara¹, S.B.Y.M.C.C.Y. Bandara¹, W.M.Y.H.K.W. Bandara¹ and S.P.A.S. Senadheera²

¹*Faculty of Medicine and Allied Sciences*

²*Department of Biochemistry, Faculty of Medicine and Allied Sciences*

Rajarata University of Sri Lanka, Mihinthale 50300, Sri Lanka

**nirodhasamadi@gmail.com*

Fasting blood sugar (FBS) is the main parameter used for screening, diagnosis, management and monitoring of diabetes mellitus. Therefore, any factor that significantly affects the FBS will interfere with the diagnosis and management of diabetes. The aim of the study was to determine the effects of various types of commonly consumed Sri Lankan dinner food on FBS and TAG in healthy individuals. Cross-sectional experimental study was conducted with 10 healthy individuals, (age 22-26 years, BMI 18 – 23 kg/m², FBS < 110 mg/dl, TAG < 150 mg/dl), selected by simple random sampling. Ten participants for each food item were recruited according to standard GI study protocol. Four dinner food (portion size= 300 g) 1) rice and curry (838 kcal), 2) fried rice (932 kcal), 3) *kottu* (937 kcal) and 4) soup with bread (422 kcal) were provided for the dinner and after 8-10 hours fasting, FBS and TAG levels were measured on the next day morning using Glucose oxidase assay kit, and TAG colorimetric assay kit respectively. Presence of any significant difference in mean FBS and mean TAG relevant to the food types, at 95% CI were measured using ANOVA Tukey's posthoc test. Rice and curry meal showed significantly lower ($p<0.05$) mean FBS (65 mg/dL) compared to all other food. A significantly lower FBS value was obtained for rice and curry meal ($p<0.005$) compared to *kottu* and fried rice while there was no significant difference ($p=0.666$) between *kottu* and fried rice. TAG levels were not statistically significant among all meals. It can be concluded that rice and curry meal for dinner has the lowest effect on FBS while fried rice and *kottu* for dinner significantly increase the FBS level compared to soup meal and rice and curry meal. None of the tested meals for dinner significantly changed the fasting TAG.

Keywords: Diabetes mellitus, Dinner foods, Fasting blood sugar, Triacylglycerol, Light diet