

IMPACT OF FOOD HABITS ON BLOOD GLUCOSE AND LIPID PROFILE

S. Amarasinghe, S. Balakumar and V. Arasaratnam

Department of Biochemistry, Faculty of Medicine, University of Jaffna, Sri Lanka
Corresponding author: rathybio@gmail.com

The aim of this study was to identify the impact of food habits on dysglycaemia and dyslipidaemia among adults in Jaffna District. Multi-stage stratified cluster sampling was used to select subjects. Food frequency questionnaire was employed. Fasting plasma glucose (FPG), High density lipoprotein (HDL), Total cholesterol (TC) and Tri acyl glycerols (TAGs) were analyzed by the enzymatic colorimetric assay (Semi Automated analyser Teco Diagnostics TC 3300). Total of 511 subjects were included. Of them, 224 (43.8%) were males. Mean age of the study population was 45.65 (± 14.46) years. Food consumed were categorized as cereals, animal derivatives, legumes, etc. Subjects were inquired about their daily dietary practices such as how often on an average they have eaten different food items during a past week. If subject consumed a food item at least once a day that particular food item was considered as 'frequently eaten food item' by the respective subject. Subjects consumed each food item in lesser amounts and less frequently were ignored. In this study, 23.1, 6.7, 21.3, 4.1 and 48.3% of the subjects were frequent consumers of food of animal derivatives, value added products, fast food, vegetables with high starch content, and some fruits (banana, wood apple, and apple). Frequent consumers of animal derivatives (24.6% vs 23.7%; $p=0.042$), value added products (79.4% vs 19.9%; $p<0.001$), fast food (25.7% vs 23.4%; $p=0.016$), vegetables with high starch content (81% vs 21.4%; $p<0.001$), and some fruits (banana, apple, pears) (25.3% vs 22.5%; $p=0.011$) had higher prevalence of dysglycaemia when compared with non-frequent consumers. Frequent consumers of value added milk products mainly ice cream (88.2% vs 20.5%; $p<0.001$), egg yolk (76.9% vs 20.8%; $p<0.001$), and vegetables with high starch content (57.1% vs 23.7%; $p<0.001$) had higher prevalence of hypertriglyceridaemia when compared with non-frequent consumers. About 88.8% of subjects consumed cereals frequently. Of them, 80.6% had low HDL cholesterol while 68.4% of non frequent consumers of cereals had low HDL cholesterol ($p=0.032$). Therefore, it can be concluded that food and food habits cause a significant impact on blood glucose and lipid profile in Jaffna population.

This project was funded by a grant received from NRC (13-122).

Keywords: Diabetes mellitus, Dysglycaemia, Dyslipidaemia, Fasting plasma glucose, High density lipoprotein, Hypertriglyceridaemia