Effects of olive oil and tomato lycopene combination on heart disease risk factors
KD Ahuja, D Kunde, MJ Ball
School of Human Life Sciences, University of Tasmania, Launceston, TAS 7250

Background: There remains debate about the relative benefits of high monounsaturated fat diets or high carbohydrate diets in reducing the risk of coronary heart disease. Intake of lycopene from tomatoes and tomato products has been suggested as inversely related to the risk of coronary heart disease and some forms of cancer. However little is known about the effects of combination of olive oil and lycopene on the risk factors of heart disease.

Objective: To compare the effect of two diets (a monounsaturated fat enriched olive oil diet and high carbohydrate low olive oil diet), with controlled carotenoid content on serum lycopene, lipids and susceptibility of serum to in vitro oxidation.

Design: A randomised crossover dietary intervention study, in human subjects (20-70 years), of two dietary periods (olive oil enriched, and high carbohydrate low olive oil) of 10 days duration. Both the diets were matched for basic foods and were controlled for carotenoid content, which was high in lycopene.

Results: Both diets similarly increased serum lycopene levels. Serum high density lipoprotein cholesterol levels were higher; and triglycerides and low density lipoprotein to high density lipoprotein ratio were lower at the end of the high olive oil diet compared to the high carbohydrate low olive oil diet. No difference was seen in susceptibility of serum to in vitro oxidation between the two diets.

Conclusion: A high olive oil diet with high lycopene content may reduce the risk of coronary heart disease by increasing serum lycopene levels and improving serum lipid profile.

Sponsorship: The study was funded by the Clifford Craig Medical Research Trust, Launceston, Tasmania, Australia. H.J. Heinz, Melbourne, Australia and IGA Moonah, Tasmania, Australia respectively provided the tomato products and olive oil. Jane Pittaway kindly assisted with technical aspects.
Dietary fibre intake and prevalence of dyslipidemia in Type-2 diabetic subjects
K Fatema, F Akter, HS Chaudhury and L Ali
Biomedical Research Group, BIRDEM; 122 Kazi Nazrul Islam Avenue Dhaka-1000 Bangladesh

Background: Dietary fibres are now widely accepted as invaluable components of a healthy diet. This is particularly true for patients with certain disorders like diabetes mellitus, hypertension and dyslipidemia. The consumption of dietary fibres varies highly depending on racial and socio-cultural background.

Objective: To evaluate the amount and nature of dietary fibre intake and its relation to blood glucose and lipid control among Bangladeshi diabetic population.

Design: Diabetic subjects attending the OPDs of diabetic care centres in Dhaka were interviewed for their dietary habits by 24 hours Dietary Recall Method and their clinical and biochemical data related to diabetes control were extracted from the respective Patient Guide Books.

Outcomes: The patients were categorized on the basis of amount of their daily dietary fibre intake and the distribution of the total subjects in these groups was as follows: <10g (Gp-1) 43%, 10-19g (Gp-2) 41%, 20-29 g (Gp-3) 13% and >30g (Gp-4) 3% respectively. Analysis of the nature of carbohydrates revealed that cellulose like fibres, which has no physiological impact on glycemic or lipidemic status, constituted a substantial portion of the fibres consumed. Pulses and vegetables, the two most important sources of useful fibres, are not adequately consumed. The consumption of dietary fibres, at this lower range, does not seem to have any significant impact on glycemic status of the subjects (HbA1c%, M ± SD, 8.51 ± 2.50 in Group-1, 8.85 ± 2.77 in Group-2, 9.16 ± 3.13 in Group-3 and 7.92 ± 2.28 in Group-4).

Conclusions: The diabetic patients in our population consume very low amount of dietary fibres in their diet and this low amount of fibre intake in our diabetic subjects does not seem to create any significant outcome on blood glucose and lipids.