

## ICCN Poster Presentations

### Clinical nutrition: diagnosis and management

#### Lipid lowering effect of dietary fibre supplementation through food based approach

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**Introduction:** In developing countries like India, the incidence of cardio-vascular diseases is on a rise. Nutrition plays an important role in the genesis of coronary artery disease (CAD). Changing lifestyles have led to an increased intake of fast foods that are usually high in energy (total fat) and low in fibre. Role of dietary fibre in the management of CAD has been highlighted in many studies; however, data on the type and amount that may prove to be beneficial in the treatment of hypercholesterolemia, particularly in the Indian situations with the existing dietary habits, are scanty.

**Objectives:** To study the dietary behaviour of hypercholesterolemic patients and to assess the impact of dietary fibre supplementation on blood lipid levels.

**Methodology:** A sample comprising of 112 hypercholesterolemic subjects (both males/females) aged between 30 and 76 years were enrolled for the study from the Cardio-thoracic centre of AIIMS. They were randomly divided into 3 groups and given dietary fibre supplementation in the form of guar-gum (15g/day), Bengal gram flour (50g/day) and Soya flour (50g/day) for a period of 4-8 weeks. The patients were advised to continue with their usual diets and life-style practices during the period of the study. Their dietary intake, body mass index and blood lipids were assessed both before and after the dietary fibre supplementation.

**Results and Discussion:** The data indicated a reduction in the total cholesterol (mean ↓ 13%) and triglyceride (mean ↓ 16%) levels of the enrolled patients. The LDLc of the patients given guar-gum, soya flour and Bengal gram flour supplementation dropped by 18mg/dl, 15mg/dl and 8mg/dl respectively. Only the group on guar-gum supplementation registered an increase in HDLc by 6.0mg/dl. In all the groups, the hypocholesterolemic effect of dietary fibre was more pronounced among high-risk hypercholesterolemic than borderline cases.

**Conclusion:** Dietary fibre supplementation can help in bringing a favourable change in the lipid profile of hypercholesterolemic patients. However, as a long-term measure counselling of the hypercholesterolemic and the masses in general for inclusion of dietary fibre rich foods in their daily diets to bring about a behavioural change can help in curbing the present epidemic of CAD and the related complications.

**Recommendations:** Optimal amounts of dietary fibre rich food sources particularly whole grain cereals, husked pulses, fruits and vegetables (preferably with edible peels) should become a regular component of the daily diets in order to keep the degenerative diseases at bay.

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#### Assessment of free L- carnitine levels in type II diabetic women with and without complications

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Considering the important role of carnitine in fatty acid and glucose metabolism, levels of blood lipids and free fatty acids are increased in patients with complications. Taking in to account the importance of the control of diabetes, in the present descriptive – analytical study, the levels of serum free L-carnitine, blood glucose and lipids were studied. Thirt-three diabetic women with complications (case group), and 18 diabetic women without complications (control group), of the same age group (30-65 years), which were selected by the simple sampling method, were assessed. Study results indicted that the mean serum free L-carnitine concentration in the case group, was significantly lower than its mean concentration level in the control group,  $39.70 \pm 1.72$  vs.  $53.42 \pm 0.93$   $\mu\text{mol/L}$ , respectively ( $PV < 0.001$ ). The mean serum free L-carnitine levels in the diabetic patients with complications, was lower than the diabetic patients with no complications. It could be supposed that this difference might be due to increased carnitine acylation, increased acyl-carnitine excretion, or its decreased renal reabsorption. This difference may be the result of rising in the carnitine requirement in diabetic patients, with diabetic complications. On the basis of the study results, carnitine supplementation in diabetic patients, especially in patients with diabetic complications, might be useful.