

## ICCN Poster Presentations

### Clinical nutrition: diagnosis and management

#### **Effect of half replacement of breakfast's bread with a low glycemic index food on blood glucose response in type 2 diabetic subjects**

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Low glycemic index foods have beneficial effects on glycemic response in type 2 diabetic subjects. However, there is no consensus about the effect of these foods while consumed with other type of foods. In this study we examined the effect of half replacement of bread in mixed meal with apple on glycemic response in patients with type 2 diabetes. This clinical trial consisted of 16 diabetic subjects aged 42-60 years with fasting blood glucose ranging from 126 to 180 mg/dl. Mean duration of diabetes was  $4.6 \pm 5.1$  years on average. Subjects received the experimental breakfast on 2 occasions with one week interval. On the first day of the study subjects had their regular breakfast. Type and amount of the food items in their breakfast were recorded then. The next week patients had a breakfast in which half of their regular breakfast bread was replaced with the same unit of apple. Venous blood samples were collected before (after 12 hours fasting), 60, 120 and 180 minutes after consumption of the breakfasts. Plasma glucose was measured using enzymatic method (glucose oxidase) and incremental area under the 3 hours glycemic response curve was calculated. The data were statistically analysed by paired t-test. Regular breakfast items of our study subjects included tea, bread, cheese, tomato and cucumber, which provided  $279 \pm 39.5$  kcal energy on average. Mean carbohydrate, protein and fat intakes were  $41.4 \pm 8.2$  gr,  $17.2 \pm 1.6$ gr and  $5 \pm 0$ gr respectively. With the breakfast containing apple the incremental area under glycemic response curve showed significant reduction in comparison with regular breakfast ( $p < 0.02$ ). Peak glucose level was also significantly lower with the breakfast containing apple ( $p < 0.01$ ) than with the regular breakfast. It seems that halfly replacement of bread with the same unit of apple in breakfast can reduce glucose response in type 2 diabetic subjects.

#### **Prevalence of anaemia among pregnant and lactating women in India, 1950 – 2002**

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**Objectives:** The compendium prepared by the authors is an attempt to compile the information on prevalence of anaemia among pregnant and lactating women, dietary intake of iron, analysis of trends and regional variations as well as identification of gaps in knowledge and potential areas for further research.

**Methods:** Information about prevalence of anaemia and dietary intake of iron from 1950 to 2002 has been collected from major studies carried out in last five decades as well as individual research papers published in various national and international journals. Information collected were analyzed (percentages) for regional level, state level and district level. Appropriate weights have been used for estimating the prevalence at regional levels as well as analysis of trend over the last 50 years.

**Results:** Approximately 165 research papers were published on prevalence of anaemia among pregnant and lactating women and around 70 research papers on dietary intake of iron by them in last five decades. Some major task force studies were also carried out on the subject. The overall prevalence of anaemia among pregnant and lactating women is around 85%. The highest prevalence of anaemia is in the eastern region (88%) of the country and the lowest in the southern region. The anaemia level was 81% during 1950-90 which slightly increased to 84% from 1991 onwards. For pregnant and lactating women the intake was 37 and 49% of RDA respectively.

**Conclusion:** The existing programme of Government of India for Prevention and Control of Nutrition Anaemia for pregnant women needs to be reviewed in the light of continued high prevalence of anaemia in the group.