

Zinc intake among a selected group of female undergraduatesT N Pathiraja¹, P Lanerolle^{2*} and S Atukorala²¹ Department of Chemistry, Faculty of Science, University of Colombo, Colombo 3² Department of Biochemistry, Faculty of Medicine, University of Colombo, Colombo 8

Poor food choices leading to inadequate zinc intake is a significant aetiological factor in the development of a low zinc status. Although studies on serum zinc levels indicate the zinc status, studies on zinc intake are necessary to analyse the diet related reasons for low zinc status. Analysis of several studies of zinc intake and food selection patterns, among young women and adolescent girls in Australia and New Zealand has revealed trends in food selection that have an undesirable impact on zinc intake. There have been no studies on zinc intake among women of reproductive age in Sri Lanka. Therefore, a cross sectional study was conducted among thirty female undergraduates (mean age: 24.8 ± 0.62 years) to assess their daily zinc intake and dietary patterns.

Representative meal samples were obtained from all three main meals on one day, from each subject. The zinc concentration was determined by atomic absorption spectroscopy (AAS) following wet digestion and the daily zinc intake was calculated. Nutrient intake and dietary patterns were evaluated using a 24 hour dietary recall questionnaire and a food frequency questionnaire. Height and weight was measured and body mass index (BMI) was calculated.

The mean daily zinc intake was 8.20 ± 2.93 mg/day. The intake, expressed as a percentage of the recommended daily allowance (RDA) was low with seven subjects having less than 50% of RDA. Only three subjects had daily zinc intakes that met the RDA. Daily zinc intakes were significantly positively correlated with protein ($r = 0.653$, $p < 0.01$) and energy ($r = 0.397$, $p < 0.01$) intake. The mean ratio of phytate:zinc was 4.20 ± 1.40 . The percentage of subjects consuming red meats and fruits once a day was $< 40\%$ and $< 30\%$ respectively. No association was observed between zinc and BMI.

Inadequacy of zinc intake and the observed association between zinc, protein and energy consumption in this group of subjects warrants further study on zinc status in women of reproductive age in Sri Lanka. In these subjects phytate levels were unlikely to affect bioavailability of zinc. However, undesirable dietary patterns which lead to an inadequate frequency of consumption of zinc containing foods and enhancers, is a cause for concern.

* pulani@yahoo.uk

Tel: 011 2695300

Ext: 329