

DIETARY INTAKE AND IRON STATUS (USING SOLUBLE TRANSFERRIN RECEPTOR ASSAY) OF PREGNANT MOTHERS IN A FISHING COMMUNITY

The aim of the present study was to evaluate the effect of the dietary patterns of a fishing community on the prevalence of iron deficiency anaemia among pregnant mothers as determined by soluble transferrin receptor assay (sTfR). Fifty eight pregnant mothers, aged 18-35 years, in the second trimester of pregnancy attending ante-natal clinics in the Negambo district, were included as the sample group, while 28, age matched, non-pregnant, non-lactating subjects were included as the control group. A three consecutive day, 24 h recall dietary survey was conducted, with weighing of cooked food on one day. Blood samples were collected from both groups were analysed for Haemoglobin (Hb), serum ferritin (DIA METRA kit) and sTfR (Orion diagnostica kit, Finland). The diagnostic cut-off for iron deficiency anaemia were as follows: Hb < 11.0 g/dL, S. Ferritin < 12 µg/L and sTfR > 2.8 mg/L.

The results showed that both, sample and control groups had lower intakes of energy (kcal) (1679 + 397, 1771+ 292), protein (g) (57.3+ 17.2, 59.8 + 10.1), calcium (mg) (636+302, 515+247), iron (mg) (19.5 + 6.48, 19.2+ 6.27) and vitamin-A (µg) (184+124, 76.5+90.4) than the Recommended Dietary Allowances. The sample group, however, showed a significantly higher intake of calcium (p = 0.05), vitamin A (p = 0.00) and

carotene ($p=0.008$) than the control group. The ratio of iron intake from animal: plant sources, were 0.4:1 for both groups. Iron deficiency anaemia was found in ten pregnant mothers and one non-pregnant subject as indicated by all three parameters. The mean values were: Hb ($11.5 \text{ g/dL} + 1.2$ and $12.4 \text{ g/dL} + 0.1$); S.ferritin ($27.4 \text{ } \mu\text{g/L} + 25.9$ and $37.1 \text{ } \mu\text{g/L} + 38.9$ ($p= 0.24$) and sTfR ($2.65 \text{ mg/L} + 2.1$ and $1.71 \text{ mg/L} + 0.5$ ($p= 0.0015$), for the sample and control groups, respectively. The study concludes that (a) higher intake of powdered milk and green leafy vegetables by the sample group, during pregnancy contributed to a significant increase in calcium, vitamin A and carotene in the diet b) intake of dietary iron from both animal and plant sources had no significant effect on the iron status of the fishing community and (c) sTfR was a better indicator for determining the iron status of the population, since an overlap was observed in the Hb and S. ferritin values of both deficient and non-deficient subjects.