

A study on the dietary intake and iron status of pregnant mothers in an urban slum population of Colombo

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The present study investigates the nutrient intake and the iron status of pregnant mothers in an urban slum population of Colombo. The study sample comprised of sixty one pregnant mothers, aged 18-35 years, in the second trimester of pregnancy, attending antenatal clinics, while aged matched twenty nine, non-pregnant, non-lactating mothers were included as the study control. The nutrient intake was assessed from a 3 day x 24-hour dietary recall (weighed dietary records on one day) using on the Food Composition Tables. Iron status was assessed as hemoglobin (Coulter MD II method), serum ferritin (Immunoenzymatic assay), and serum transferrin receptor (sTfR) (Immunoenzymatic assay). The diagnostic cutoff for iron deficiency anemia (IDA) was: Hb < 110 g/ L (Hb < 120 g/ L for non-pregnant), serum ferritin \leq 12 μ g/ L, and sTfR > 2.8 mg/ L for pregnant mothers.

The mean intake of energy (2245 \pm 310 Kcal, 2357 \pm 480 kcal), protein (73 \pm 17 g, 75 \pm 19 g), and iron (21 \pm 8 mg, 25 \pm 11 mg) of non-pregnant and pregnant mothers, were adequate according to Recommended Daily Allowances (RDA). The mean intake of vitamin A (443 \pm 260 μ g) and calcium (765 \pm 265 g) in pregnant mothers were below RDA, even though an increase in the intake of leafy vegetables, fruits and milk was observed. The iron intake was mainly in non-heme form, with a heme: non-heme ratio of 1:3 and 1:4.8 for study control and sample, respectively. The prevalence of IDA (by all three parameters) was 11 % and 3 % among pregnant and non-pregnant mothers, respectively. The mean values observed for pregnant and non-pregnant mothers were Hb: 115 \pm 11 g/ L and 124 \pm 7.4 g/ L; Serum ferritin: 22.9 \pm 13.9 μ g/ L and 30.2 \pm 18.2 μ g/ L; sTfR: 2.5 \pm 1.8 mg/ L and 2 \pm 1.4 mg/ L, respectively. The mean nutrient intake by the IDA and normal population of the pregnant mothers was not significantly different at $p=0.05$. The nutrient adequacy of vitamin A and calcium by the pregnant mothers can be achieved by increasing the consumption of milk by 15% and the choice for the green leafy vegetables.

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