Title : **Folate Status of Tribal Adolescents from Ahmednagar District, Maharashtra**

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Introduction:

Folic acid deficiency is a social and public health nutrition concern. It is a part of general problem of under nutrition and socioeconomic deficiencies. Inadequate folate intake first leads to a decrease in serum folate concentration, then to a decrease in erythrocyte folate concentration, a rise in homocysteine concentration, and megaloblastic changes in the bone marrow and other tissues with rapidly dividing cells. Many of the clinical effects of folate deficiency can be explained by the metabolic role of folate coenzymes in pathways leading to DNA precursor synthesis and methyl group homeostasis. Because of these roles, symptoms of deficiency are often expressed first in rapidly growing tissues especially during pregnancy and growth.

Methodology:

Folate and dietary folate intake of 190 rural tribal adolescents in the age group of 10-17 years was evaluated by analysis of red cell folate using radioimmunoassay method and 24 hr dietary recall respectively in 97 boys and 93 girls from Ahmednagar district, Maharashtra.Radioimmunoassay, multiple-pass 24-hour dietary recall, and HemoCue were used to measure red blood cell (RBC) folate, folate intake, and anemia status, respectively.

Results:

The mean red cell folate in boys was 197.04± 104.8 and in girls was 196.1± 156.6 with no significant difference in red cell folate levels between the sexes (p=0.9). The results suggested that in boys the red cell folate levels decreased with increasing age whereas in girls the deficiency was more prevalent in early adolescence (41.7%) and late adolescence (63.6%). The average daily dietary folate intake in 10-12 year old, 13-15 year old and 16-17 year old was 132±32.05mcg, 149.7±39.0mcg and 170.8±37.6mcg respectively. Except for adolescents in 13-15 year old, the adolescents in the other two age groups could not meet RDA, indicating poor dietary intakes. The difference in dietary folate intake between those with low red cell folate and normal red cell folate levels within each age group was not significant, indicating that apart from inadequate folate intake other factors may influence the folate status. There was no significant relation between haemoglobin and red cell folate status observed.

Conclusion:

The study showed that prevalence of deficiency was more prominent in early adolescence in both the sexes, during transition phase from childhood to adolescence. This is especially important in adolescent age girls as they are going to enter reproductive stage of life. Use of folate supplementation may prove to be beneficial. Overall the folate status of adolescence was inadequate and strategies are needed for improvement.

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