ISSN 0972-0639X
STUDIES OF TRIBES AND TRIBALS

 Stud Tribes Tribals, 9(2): 111-121 (2011)

Coexistence of Haemoglobinopathies and Iron Deficiency in the Development of Anemias in the Tribal Population Eastern India

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KEYWORDS Iron Deficiency. Thalassaemia. Hemoglobin Disorder. Tribal

ABSTRACT Iron deficiency is the most prevalent nutritional deficiency and the most common cause of anemia worldwide. Several hemoglobin disorders have also been found to modify the morbidity and mortality of a population. It has been established that coexistence of á and â thalassaemia with abnormal HbS and E may modify the level of haemoglobin in blood. Tribal communities in India constitute the largest tribal population in the world. The present study is the first to report on the interaction of Haemoglobinopathies and Iron deficiency in the development anemias in the tribal population Eastern India. Methods: A total of 450 unrelated subjects of some tribal groups of two states of Eastern India were randomly selected for the study. Blood was collected from the subjects after obtaining consents. Prevalence of anemia was screened followed by tests for hemoglobin disorders and iron study of selected cases. Beta thalassaemia mutations were screened in selected cases. Age and sex matched control groups were chosen for the study. HbE was the most common haemoglobinopathy among the studied groups of the North-east. Prevalence of Beta thalassaemia (1.6%) is almost nil in the tribal groups. HbE in homozygous states, sometimes in heterozygous states induced anameia among the Mishings, Deoris and Ahoms, but not in Sonowals. Iron deficiency anemia was pronounced among the females of Mishings and Sonowals. Incidence of hemoglobin disorders is very low among the Santhal (1.12%) and this group was the victim of iron deficiency anemias.