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### Original Report

#### Frequency of Thalassemia, Iron and Glucose-6Phosphate Dehydrogenase Deficiency Among Turkish Migrating Nomad Children in Southern Iran

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#### Abstract:

Ferropenia and consequent iron deficiency anemia (IDA),  $\beta$ -thalassemia, and glucose 6-phosphate dehydrogenase (G6PD) deficiency are three main common hematological problems in Iran. This study was conducted to investigate the prevalence of these problems in Turkish migrating nomads in southern Iran. From June to October 2006, the blood sample of 152 Turkish migrating nomadic children including 79 (52%) males and 73 (48%) females were evaluated for iron indices and G6PD deficiency in southern Iran. The family history of thalassemia, favism, and signs and symptoms related to anemia of participants were determined. RBC count, different types of Hb, Hct, MCV, MCH, MCHC, RDW, SI, TIBC and SF were measured immediately after blood sampling. Twenty-seven (17.7%) children had serum ferritin (SF) level <12 ng/dL, while this low serum ferritin level was similar in both genders. The low hemoglobin (Hb) level had a statistical correlation with the low serum ferritin level. Among all participants, the prevalence of G6PD deficiency was 7.2% which was more frequent in males compared to females (8.9% vs. 5.5%). Seven (4.6%) children had Hb <sup>3</sup> 3.5 g/dL; and the prevalence of  $\beta$ -thalassemia trait was higher in female children compared with males (5.5% vs. 3.8%). The prevalence of IDA was 17.7%. Although this figure is less than the prevalence found in other developing countries (25-35%); but it shows that Turkish ethnic nomads in southern Iran are still behind the health statues in the industrialized countries (5-8%). The relatively high prevalence of  $\beta$ -thalassemia trait also is a major potential risk; and careful performance of Iranian thalassaemia program is highly suggested. It seems that G6PD deficiency is a prevalent disease in migrating Turkish nomads, and again establishment of educational programs, and investigation of dietary habits of Turkish migrating nomads on how and by whom the fava beans are consumed; seems to be a good way to prevent favism.

#### Keywords:

Iron deficiency , thalassemia , G6PD deficiency , nomads , southern Iran

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