



## Reference values of hemoglobin by trimesters of pregnancy in Turkish population

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### Objective

The benefit of iron supplementation is not evident unless there is a moderate anemia (hemoglobin (Hb) below 9g/dL) . On the other hand, iron antagonizes the intestinal absorption of other essential divalent cations and increases oxidative stress both in mother and fetus. In the current sequential study, our primary objective was to determine normal reference values for Turkish pregnant women who did not use any supplementation during pregnancy.

### Methods

Between January-2015 and May-2016, all healthy 18-40 year old, first trimester pregnant women admitted to our department for pregnancy follow up were recruited. Blood samples were collected in standard fashion in between 8-12 week, 22-26 week and 32-36 week. Blood Hb, hematocrit (Hct) and ferritin were analyzed. Statistical.

### Results

One hundred and sixty eight women were included during the study period. The 10th percentiles for Hb, Hct and ferritin values for first, second and third trimesters were 11.4-10.7-11.2/34.9-32.4-30.1/8.35-9.30-7.4, respectively. Hb, Hct and ferritin values were statistically significant between trimesters ( $p < 0.001$ ). In addition to that, all three decreased significantly from first to second trimester ( $p < 0.001$ ,  $p < 0.001$ ,  $p < 0.001$ , respectively) but stayed comparable between second and third trimester ( $p = 0.246$ ,  $p = 0.575$ ,  $p = 0.408$ , respectively) (Table 1).

### Conclusion

In this study reference intervals for certain hematologic variables of healthy pregnancy without using any supplementation are updated. Although our study showed slightly higher results, they were found to be comparable with WHO values and other major studies in literature. This may be hypothetically related to the high altitude of the location of the study. Further studies with larger patient groups must be planned in order to reach more informative conclusions.