Introduction: Preterm labor leads to neonatal deaths and various complications for survived neonates worldwide. This matter has led to great insistence of investigators to find predictor markers of preterm labor. The present study is done to determine the relationship between maternal serum ferritin level and the risk of preterm delivery.

Material and methods: This is a cross-sectional study conducted in Alzahra & Beheshti hospitals of Esfahan University of medical sciences, Iran since 2010 to 2011 in which 69 preterm and 153 term labors were studied. Level of serum ferritin was measured during pregnancy in certain intervals. The data was analyzed by SPSS software version 18 using T-student, Chi square and Roc Curve tests. P-value less than 0.05 were considered as statistically significant.

Results: No significant difference was found between two groups in terms of their demographic data such as gestational age. Mean serum ferritin levels in preterm and term labors were 26.7 ± 5.5 and 19.8 ± 3.6 ng/ml, respectively while the difference between two groups was statistically significant (P<0.001). On the other hand cut off (as 22.5 ng/ml), point positive and negative predictive values of ferritin serum test to predict preterm labor are calculated.

Conclusion: Ferritin serum level more than the cut off point and a rise in serum ferritin level with increasing gestational age, can alert the physicians regarding the possibility of preterm labor.

Key words: ferritin – preterm labor – predictive value