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Relationship between Low PAPP-A Levels and Preterm Delivery

Hamide Pakniat¹,

Khadijeh Elmizadeh¹,

Nahid Senobari²

1 Assistant Professor, Department of Obstetrics and Gynecology, Faculty of Medicine, Qazvin University of Medical Sciences,

Qazvin, Iran

2 Medical Student, Faculty of Medicine, Qazvin University of Medical Sciences, Qazvin, Iran

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Abstract

Background and purpose: Preterm birth is the one that occurs before 37 weeks of pregnancy.

Pregnancy-associated plasma protein A (PAPP-A) is one of the main elements in screening test for Down syndrome, carried out at 11-14 weeks of gestational age. The aim of this study was to determine the relationship between low PAPP-A levels and preterm delivery.

Materials and methods: A descriptive-analytic cohort study was performed in 994 women of singleton pregnancy aged 18-35 years old attending Qazvin Kowsar Hospital before week 14 gestational age in 2016. The first trimester screening test was performed in all participants. Results of the tests, maternal demographic data, and gestational age at the end of pregnancy were recorded. SPSS was used to analyze the data.

Results: Preterm birth happened in 77 (7.74%) cases. The mean PAPP-A level was 1.1 ± 0.69 MOM. PAPP-A level was found to have a significant relationship with preterm delivery ($P < 0.001$). The sensitivity and specificity of PAPP-A levels were 0.674 and 0.675, respectively in predicting preterm delivery. The positive and negative predictive values of the test were 84.92% and 95.88%, respectively.

Conclusion: Lower PAPP-A levels were found to be associated with risk of preterm birth, so, this screening test is helpful in determining the probability of preterm birth.

Keywords: premature birth, Pregnancy-Associated Plasma Protein-A, pregnancy outcomes

