Introduction
Identifying first-trimester biomarkers could allow early intervention to improve outcomes and prevent preterm delivery. In this study, we aim to reveal the first trimester screening potential of these variables for predicting preterm delivery.

Method
A prospective cohort study was conducted among patients who were admitted to our obstetric clinic between January 2013 and December 2017. Participants who provided blood samples at first prenatal visit, completed prenatal care, and delivered a live infant at our institution were included in the study. The variables that exhibited statistically significant differences between the groups were examined using logistic regression analysis. Cut-off point selection was based on clinical and statistical significance. We included interaction links in a stepwise forward procedure using likelihood ratio statistics with an entry criterion of $P < 0.05$.

Result
The number of risk factors and preterm delivery were positively correlated ($P_{\text{trend}} < 0.001$). Compared with women without risk factor, women with one metabolic risk factor had a risk (OR = 4) of preterm delivery. Women with a cluster of two metabolic risk factors tended to develop more adverse pregnancy outcomes (OR = 11.1). The risk was much higher in women with a cluster of three or more risk factors (OR = 20).

Conclusion
Pregnant women with a cluster of risk factors were more likely to have preterm delivery. Further longitudinal study is necessary to confirm our findings.