

# Association of adverse pregnancy outcome with the values of serum biomarkers of Quadruple test

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## Abstract

**Background:** Prenatal test includes prenatal screening and diagnosis that aims to find different changes in fetus and mother during the pregnancy. Prenatal screening is focused in finding any possible pathology in the wide population using some noninvasive methods.

The changes of utero-placental blood flow lead to utero-placental insufficiency, which will be manifested by pregnancy induced hypertension, preeclampsia, intrauterine growth retardation or/and small for gestation age fetus, preterm birth, etc.

**Aim:** of this research is to perform a prenatal screening of serum biomarkers from Quadruple test in the second trimester of pregnancy, in order to predict early diagnosis of eventual adverse pregnancy outcome.

**Material and method:** This prospective study is realized in the Special Hospital for Gynecology and Obstetrics “Mother Theresa”, Skopje, during the period November 2019 to June 2021. It includes 673 pregnant women, between 18-23.6 gestational weeks, followed up and monitored till delivery. We followed up the values of serum biomarkers from Quadruple test, fetal biometry, quantity of amniotic fluid and gestational week and bodily measures of the fetus in delivery.

**Statistical processing:** It was conducted a statistical analysis of maternal characteristics in research group and the group with no adverse pregnancy, determining the variables which significantly associate with adverse pregnancy outcome.

**Results:** Within 673 respondents, 523 (77.7%) had favorable pregnancy outcome, while 150 (22.3%) of pregnant women had adverse pregnancy outcome (they made up the research group). From the group with no adverse pregnancy, 48 (32%) had preeclampsia, 32 (21.3%) had pregnancy induced hypertension, 20 (13.3%) had small fetus according to the gestational age, and 50 (33.3%) had intrauterine growth retardation.

**Conclusion:** Inhibin A as a single marker for adverse pregnancy outcome was the best predictor for differentiation of pregnant women with adverse and favorable pregnancy outcome.

**Keywords:** Quadruple test, pregnancy outcome, Inhibin A