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Abstract:
Introduction: Recently the rate of preterm birth has increased from 12.5%-12.7%(CDC, 2006). Studies debate the relevance of stress on pregnancy outcomes. In recent studies, high levels of CRP obtained from maternal serum was significantly higher in women with preterm birth(Fialova et al, 2006). Conflicting findings report that stress had minimal effect on outcomes(Glynn et al, 2004). Limited research has been done to determine a reliable measure of stress. The purpose of this study is to explore maternal stress and its relationship with CRP(C-reactive protein) in maternal serum across trimesters. Aim 1: Examine components of reported stress and CRP across trimesters in a sample of pregnant women. Aim 2: Examine if elevated levels of ESS and/or CRP contribute to adverse outcomes(preterm, preeclampsia, PIH, and stillbirth).

Method(s): This prospective study recruited a sample of women age 18 and 40(n= 85) with and without history of preterm birth. A survey completed in each trimester included the Everyday Stressor Evaluator(ESS) to measure perceived maternal stress. CRP in maternal serum was measured with a valid assay. Serum and survey were collected at the same time. Data analysis included descriptive statistics, T-tests, Pearson correlation coefficient, and repeated ANOVA using SAS software.

Results: There was no significant difference in ESS scores across trimesters however the highest stress scores were reported in the first trimester(12.1; 11.7; 9.9). CRP levels were significantly different across trimesters with the highest level occurring in the second trimester (p=.04). There was no correlation between ESS scores and CRP levels. In 15 women with adverse birth outcomes CRP levels were not significantly different than women with healthy infants. Upon closer examination of women delivering preterm, CRP levels in the third trimester were lower than other women with adverse outcomes(5020 vs 25671 mg/L).

Discussion & Conclusions: Higher ESS scores were not associated with adverse outcomes; however, lower CRP levels in the third trimester were associated with women having preterm birth. Practitioners need to continue to screen for stress throughout pregnancy to determine effect of stress on birth outcomes. Research needs to be done to identify a valid measure of stress.

Abstract History:
This abstract has not been presented or accepted for presentation in whole or in part at the SNRS or other scientific meeting.

Financial Disclosure:
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