Effect of Low-Dose Aspirin or Calcium Supplementation on the incidence of Pre-eclampsia among pregnant women

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Abstract
Pre-eclampsia complicates (6% to 8%) of all pregnancies with the majority of cases (74%) occurring during a mother's first pregnancy. Pre-eclampsia is a multi-system disorder of unknown etiology. During the past several years, numerous clinical trials described the use of various methods to prevent or reduce the incidence of pre-eclampsia. This study was designed to evaluate the effects of low-dose aspirin or calcium supplements, taken during pregnancy, on the incidence of pre-eclampsia. The study was conducted in two settings: Maternal & Child Health Centers and the antenatal clinic and delivery department of Al-Nadeem Hospital, in Madaba city of Jordan. A quasi-experimental design was used where three hundred forty five healthy women were chosen according to the following inclusion criteria: nulliparity, between 18-30 years of age, not under or over weight, single gestation, first prenatal visit before 20 weeks of gestation, blood pressure lower than 130/80 mmHg, with no detectable proteinuria and nonsmoker. Subjects were excluded if they had a history of cardiovascular, renal or endocrine problems, and medical or obstetric complications. Women were divided into three equivalent groups. Group 1 received 75 mg of Aspirin each day as per doctor order, Group 2 received 500 mg of oral Calcium-D daily (calcium –D = 500 mg calcium carbonate + 200 IU vitamin D) as per doctor order; and the Control Group 3 received no medication at all. Findings revealed that incidence of pre-eclampsia in Group 1, Group 2 and Group 3 was (4.3 %, 2.5 % and 27.7 % respectively). There was a statistically significant difference in the incidence of pre-eclampsia between women receiving Aspirin and the control group (P=0.007) and between women receiving Calcium and Vitamin D and the control group (P=0.005). In contrast, no significant difference was found in the incidence of pre-eclampsia between women on Aspirin and women on Calcium and Vitamin D.

Key words: Calcium and low-dose Aspirin, supplementation in pregnancy, pre-eclampsia