

## **ABSTRACT**

### **BACKGROUND & OBJECTIVES:**

The purpose of the present study is to estimate the level of salivary C reactive protein in pregnant women with obesity and periodontitis and to identify their potential risk for preterm birth.

### **MATERIALS AND METHODS:**

A total of 74 pregnancy women between age 19 to 40 years were included in the study in gestational age  $\leq 32$  weeks. Depending on inclusion and exclusion criteria the subjects were divided into 4 groups. Clinical parameters like gingival index , probing pocket depth , clinical attachment loss , body mass index were evaluated. Salivary sample was collected by unstimulated method in sterile container and evaluated for salivary C reactive protein levels using particle enhanced particle-enhanced turbidimetric immunoassay (CRP calibrator Euro diagnostic systems). And the patient were followed till their delivery and post obstetrics details are obtained about delivery week and weight of the infants.

### **RESULTS :**

The association was stronger in obesity patient to get preterm birth with odds ratio=8.556. The association was stronger in group C to get low birth weight infants and preterm birth with odds ratio= 15.75 and odds ratio= 2.54, respectively. The association was also stronger in group D patients to get preterm birth and low birth weight with odds ratio=11.2000 and odds ratio=8.5556 respectively. The odds ratio of more than one value suggest, there is strong association between them. Pre term birth was defined as delivery at  $<37$  weeks of gestation. In group A, 3 subject had preterm

birth, while in group B, C and D 11, 9, and 11 preterm birth were recorded respectively . In group D, 7 subjects gave birth to infant with weight  $\leq 2.5$ kg which was considered as low term birth, found to be statistically significant when compared to group A respectively. When infant weight and salivary CRP are correlated, in group C and D they found to have negative good correlation ie., when salivary c reactive protein level increased there were increased risk for preterm birth .

### **CONCLUSION:**

The results of this study indicate that pregnant women with both obesity and periodontitis are significantly more likely to have PTB than pregnant women in control group. Our results support that maternal obesity must be controlled and managed prior to pregnancy; in particular, obese pregnant women must manage and maintain better periodontal health than normal weight pregnant women in order to reduce PTB with LBW.

Keywords: Periodontitis, obesity, Pregnancy, Preterm birth, Salivary C reactive protein