Factors Associated With Incidence/Progression of Periodontal Measures in Pregnant Women

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Pregnant women appear to be at excess risk for developing both gingivitis and periodontitis. However, few large studies have investigated the progression of these conditions during pregnancy in a comprehensive manner. Objectives: The purpose of this study was to identify clinical factors that are predictive of incidence/progression of periodontal measures in pregnant women adjusting for relevant socio-demographic, and behavioral predictors. Methods: Full-mouth periodontal examinations (six sites on all teeth) were conducted during a cohort study of pregnant women entitled “Oral Conditions and Pregnancy”. 872 participants were examined at enrollment (prior to 26 weeks gestational age), and within 48 hours after delivery. Periodontal incidence/progression was defined as 4+ sites with 2+ millimeters increase in probing depth (PD) that resulted in PD of at least 4mm at delivery. Enrollment periodontal measures, maternal race, age and weight, smoking, illicit drug, and alcohol use during pregnancy, marital status, having private insurance, WIC food stamp eligibility, STDs and parity were assessed bi-variately in relation to incidence/progression. Multivariable models including relevant clinical variables and significant covariates were developed. Results: While several clinical measures were significantly associated with the outcome, having >=10 percent of sites with bleeding on probing (BOP) and 4+ sites with PD >=4mm (PD4) were the best two clinical predictors of incidence/progression (OR=2.8;95%CI=1.8-4.2, OR=2.0;95%CI=1.4-2.9 respectively) adjusting for maternal race and age, enrollment weight, smoking during pregnancy, marital status, WIC food stamp eligibility and having private health insurance. Nested multivariable models were developed to assess the impact of BOP on the PD4 – incidence/progression relationship. We found PD4 was only significant in the presence of BOP (LowBOP OR=1.3;95%CI=0.5-3.3, HiBOP OR=3.0;95%CI=2.2-4.3. Conclusion: Enrollment BOP and PD4 are significant predictors of incidence/progression of periodontal PD in pregnant women however; PD4 is only a predictor with >=10%BOP. This study was funded by NIH grant DE-012453.

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