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Periodontal Treatment and the Risk for Adverse Birth Outcomes

D.A. ALBERT[1], M.D. BEGG[2], H.F. ANDREWS[3], P.N. PAPAPANOU[4], A. WARD[4], S. WILLIAMS[4], M.L. CONICELLA[5], J.L. THOMSON[6], and V. RAUH[2], [1]Columbia University College of Dental Medicine and the Mailman School of Public Health, New York, NY, USA, [2]Columbia University Mailman School of Public Health, New York, NY, USA, [3]Columbia University College of Physicians and Surgeons and the New York State Psychiatric Institute, USA, [4]Columbia University College of Dental Medicine, New York, NY, USA, [5]Aetna, Inc, Pittsburgh, PA, USA, [6]Aetna Health Analytics, Hartford, CT, USA

Objectives: Using medical and dental insurance data, we examined the association between periodontal/dental treatment and two adverse birth outcomes; preterm birth (<37 gestational weeks) and low birth weight (<2500 grams). Methods: We examined retrospectively, records from 29,068 individuals enrolled in a national health insurance plan. The effect of dental treatment order (pre-conception and during gestation) was determined. Pearson's chi-squared test was used to compare the rates of low birth weight and preterm birth among the exposure categories. Logistic regression analysis was used to compare outcome rates across treatment exposure categories, while adjusting for secondary variables (duration of continuous dental coverage, maternal age, pregnancy complications, neighborhood-level income, and neighborhood-level race/ethnicity). Results: Overall 4.2 % of birth outcomes were low birth weight and 9.3% were preterm. Unadjusted analyses indicated that both adverse birth outcomes were less frequent for women that had received any dental care during the study period than for those who had not. The incidence of low birth weight was 5.4% for women who had not received any dental care dental treatment, and 3.6% or lower for those receiving periodontal treatment and/or dental prophylaxis ($p<0.001$). Similarly, the incidence of preterm birth was lower in women who had received periodontal treatment and/or dental prophylaxis (8.1% or lower), than in those who had received no dental care (11.0%) ($p<0.001$). Adjusted logistic regression showed that women who received periodontal treatment and/or prophylaxis in the pre-conception period had the lowest incidence of preterm birth. Conclusions: Periodontal therapy and/or prophylaxis delivered in the pre-conception period was associated with the lowest risk of adverse birth outcomes. Any dental care, as opposed to no care, was also associated with lower risk of adverse birth outcomes.

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