

## Successful periodontal therapy may reduce the risk of preterm birth: dental study

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A collaboration led by a periodontal researcher from the University of Pennsylvania School of Dental Medicine has found a possible link between the success of gum-disease treatment and the likelihood of giving birth prematurely, according to a study published in the journal *BJOG: An International Journal of Obstetrics and Gynaecology*.

While a number of factors are associated with an increased rate of [preterm birth](#), such as low body-mass index, [alcohol consumption](#) and smoking, the study adds to the body of research that suggests oral infection may also be associated with such an increase.

The study looked at 322 [pregnant women](#), all with gum disease. Half the group was given oral-hygiene instruction and treated with scaling and root planning, which consists of cleaning above and below the gum line. The second half received only oral-hygiene instruction.

The incidence of preterm birth was high in both the treatment group and the untreated group: 52.4 percent of the women in the untreated control group had a preterm baby compared with 45.6 percent in the treatment group. These differences were not statistically significant.

However, researchers then looked at whether the success of periodontal treatment was associated with the rate of preterm birth. Participants were examined 20 weeks after the initial treatment, and success was characterized by reduced inflammation, no increase in probing depth and loosening of the teeth.

Within the treatment group of 160 women, 49 were classified as having successful gum treatment and only four, or 8 percent, had a preterm baby. In comparison, 111 women had unsuccessful treatment and 69, or 62 percent, had preterm babies.

The results show that pregnant women who were resistant to the effects of scaling and root planning were significantly more likely to deliver preterm babies than those for whom it was successful.

The mean age of the women in the study was 23.7 years; 87.5 percent were African-American, and 90 percent had not seen a dentist for tooth cleaning.

"First and foremost, this study shows that pregnant women can receive periodontal treatment safely in order to improve their oral health," said Marjorie Jeffcoat, professor of periodontics at Penn Dental Medicine and lead author of the paper. "Second, in a high risk group of pregnant women, such as those patients who participated in this study, successful periodontal treatment when rendered as an adjunct to conventional obstetric care may reduce the incidence of preterm birth."

Future papers will address the role of antimicrobial mouth rinses in reducing the incidence of preterm birth.

"Researchers have previously suggested that severe gum infections cause an increase in the production of prostaglandin and tumour necrosis factor, chemicals which are associated with preterm labor," Philip Steer, editor-in-chief of BJOG, said. "This new study shows a strong link between unsuccessful gum-disease treatment and preterm birth; however, we need to bear in mind that 69 percent of women failed to respond to the dental treatment given. Therefore, more effective treatment will need to be devised before we can be sure that successful treatment improves outcome, rather than simply being a marker of

pregnancies with a lower background level of inflammation that will go to term anyway."

Provided by University of Pennsylvania

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