

Research shows mouthwash routine may cut risk of preterm birth

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(Medical Xpress) -- Research from the University of Pennsylvania has shown that rinsing with mouthwash isn't just good for oral health, it may be associated with a reduction in the incidence of preterm birth in pregnant women with periodontal disease. In the study, pregnant women with periodontal disease who adhered to an antimicrobial mouthwash routine had less than half the incidence of premature births than members of a control group.

The research was conducted by Marjorie Jeffcoat of the Department of Periodontics in Penn's School of Dental Medicine and Samuel Parry of the Department of Obstetrics and Gynecology in Penn's Perelman School of Medicine. They teamed with researchers from Procter and Gamble who study the effects of chemotherapeutics on oral health and systemic outcomes.

Their findings were published in the *American Journal of Obstetrics and Gynecology*.

Periodontal disease, or gingivitis, is an inflammation of the gums caused by bacterial infection. Though it principally causes damage to the gums and bones of the jaw that support the teeth, the underlying infection and the body's resulting inflammatory response can have wide-ranging effects.

"Your mouth is not disconnected from the rest of your body," Jeffcoat said. "If you have an infection in the mouth, you would expect to have

the same kinds of results that you would have from any other chronic infection, which can include [preterm birth](#).”

Jeffcoat first perceived a correlation between periodontal disease and preterm birth early in her career as a resident in a hospital, providing dental care for women who were pregnant or who had recently given birth. About a decade ago, she began to design a series of studies to test if the presence of periodontal disease correlates with the incidence of preterm birth.

“We found that indeed it does, but we know that correlation isn’t always causation,” Jeffcoat said. “So we began a study where we carefully cleaned pregnant women’s teeth and treated their periodontal disease. It cut the incidence of preterm birth about in half.”

Though Jeffcoat’s study seemed conclusive, similar studies had mixed results. She hypothesized that this could be the result of variation in the quality or style of teeth cleaning or differences in the risks in the patient populations studied. Looking for a standardized way that pregnant women could defend against periodontal disease, Jeffcoat and her colleagues began looking at over-the-counter antimicrobial mouthwashes containing cetylpyridinium chloride, or CPC, as the basis for a new study.

The researchers used Crest Pro-Health brand dental rinse — provided by Procter and Gamble — as it was the only commercially available rinse that had the desired antimicrobial agent, CPC, but did not contain alcohol, an important consideration for an experimental design that included only pregnant women.

The 71 women in the rinse group were instructed to rinse for 30 seconds twice a day after brushing. Dental exams were performed at baseline and three and six months later to assess periodontal health.

“In collaboration with our partners in the obstetrics department at the Hospital of the University of Pennsylvania, we looked at a population at high-risk for preterm birth and compared percentage of preterm births in participants who used the rinse and those who didn’t,” Jeffcoat said. “The patients who had the rinse had a decrease of over half the incidence of preterm birth.”

The connection between periodontal disease and pregnancy is not as surprising as it may at first seem; the disease is usually exacerbated in pregnant women, as the hormones involved in pregnancy also have an inflammatory effect on the gums. One of the body’s natural responses to this inflammation is the inflammatory mediator prostaglandin E2, which is included in a variety of labor-inducing prescription drugs, most commonly Pitocin.

The interplay of these hormones, infection and inflammation may be the mechanism by which periodontal disease increases the likelihood of preterm birth and how treating the disease lowers that incidence.

“If you’re just at the edge of the baby saying, ‘It’s time to get out of here,’ a chronic infection with moderate to severe periodontal disease may be enough to push it over and result in a preterm birth,” Jeffcoat said.

Future research on this topic will include repeating the trial with a larger population and determining how outcomes are affected by the reminders patients receive.

"Preterm birth is the major cause of perinatal mortality and morbidity worldwide and still difficult to predict and prevent," Jeffcoat said. "So, if something as simple as mouthwash could possibly help to change outcomes, that’s very exciting."

Provided by University of Pennsylvania

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