

Gum Disease Can Increase the Time It Takes to Become Pregnant

ScienceDaily (Aug. 1, 2011) — Professor Roger Hart told the annual meeting of the European Society of Human Reproduction and Embryology that the negative effect of gum disease on conception was of the same order of magnitude as the effect of obesity.

Periodontal (gum) disease is a chronic, infectious and inflammatory disease of the gums and supporting tissues. It is caused by the normal bacteria that exist in everyone's mouths, which, if unchecked, can create inflammation around the tooth; the gum starts to pull away from the tooth, creating spaces (periodontal pockets) that become infected. The inflammation sets off a cascade of tissue-destructive events that can pass into the circulation. As a result, periodontal disease has been associated with heart disease, type 2 diabetes, respiratory and kidney disease, and problems in pregnancy such as miscarriage and premature birth. Around 10% of the population is believed to have severe periodontal disease. Regular brushing and flossing of teeth is the best way of preventing it.

Prof Hart, who is Professor of Reproductive Medicine at the University of Western Australia (Perth, Australia) and Medical Director of Fertility Specialists of Western Australia, said: "Until now, there have been no published studies that investigate whether gum disease can affect a woman's chance of conceiving, so this is the first report to suggest that gum disease might be one of several factors that could be modified to improve the chances of a pregnancy."

The researchers followed a group 3737 pregnant women, who were taking part in a Western Australian study called the SMILE study, and they analysed information on pregnancy planning and pregnancy outcomes for 3416 of them.

They found that women with gum disease took an average of just over seven months to become pregnant -- two months longer than the average of five months that it took women without gum disease to conceive.

In addition, non-Caucasian women with gum disease were more likely to take over a year to become pregnant compared to those without gum disease: their increased risk of later conception was 13.9% compared to 6.2% for women without gum disease. Caucasian women with gum disease also tended to take longer to conceive than those who were disease-free but the difference was not statistically significant (8.6% of Caucasian women with gum disease took over one year to conceive and 6.2% of women with gum disease).

Information on time to conception was available for 1,956 women, and of these, 146 women took longer than 12 months to conceive -- an indicator of impaired fertility. They were more likely to be older, non-Caucasian, to smoke and to have a body mass index over 25 kg/m². Out of the 3416 women, 1014 (26%) had periodontal disease.

Prof Hart said: "Our data suggest that the presence of periodontal disease is a modifiable risk factor, which can increase a woman's time to conception, particularly for non-Caucasians. It exerts a negative influence on fertility that is of the same order of magnitude as obesity. This study also confirms other, known negative influences upon time to conception for a woman; these include being over 35 years of age, being overweight or obese, and being a smoker. There was no correlation between the time it took to become pregnant and the socio-economic status of the woman.

"All women about to plan for a family should be encouraged to see their general practitioner to ensure that they are as healthy as possible before trying to conceive and so that they can be given appropriate lifestyle advice with respect to weight loss, diet and assistance with stopping smoking and drinking, plus the commencement of folic acid supplements. Additionally, it now appears that all women should also be encouraged to see their dentist to have any gum disease treated before trying to conceive. It is easily treated, usually involving no more than four dental visits.

"The SMILE study was one of the three largest randomised controlled trials performed in Western Australia. It showed conclusively that although treatment of periodontal disease does not prevent pre-term birth in any ethnic group, the treatment itself does not have any harmful effect on the mother or fetus during pregnancy."

Prof Hart said that the reason why pregnancies in non-Caucasian women were more affected by gum disease could be because these women appeared to have a higher level of inflammatory response to the condition.

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