

Maternal smoking linked to shorter fetal telomere length

February 12 2015



(HealthDay)—Prenatal exposure to tobacco is associated with shorter fetal telomere length, according to research published in the February issue of the *American Journal of Obstetrics & Gynecology*.

Hamisu M. Salihu, M.D., Ph.D., of the University of South Florida in Tampa, and colleagues administered a self-report questionnaire and salivary cotinine test to confirm [tobacco](#) exposure in pregnant women admitted to the hospital for delivery. Genomic DNA from neonatal umbilical cord blood was analyzed to assess fetal [telomere length](#). The ratio of relative telomere length was determined by the ratio of telomere repeat copy number to single copy gene copy number (T/S ratio).

The researchers found that smoking was inversely related to fetal telomere length in a dose-response pattern. T/S ratio was greater in descending order in nonsmokers, than in passive smokers, than in active

smokers. For each pairwise comparison, significant differences were observed in telomere length. The greatest difference in telomere length was found between active [smokers](#) and nonsmokers.

"Our results provide the first evidence to demonstrate a positive association between shortened fetal telomere length and smoking during pregnancy," the authors write.

More information: [Abstract](#)
[Full Text \(subscription or payment may be required\)](#)

Copyright © 2015 [HealthDay](#). All rights reserved.

Citation: Maternal smoking linked to shorter fetal telomere length (2015, February 12) retrieved 4 May 2024 from
<https://medicalxpress.com/news/2015-02-maternal-linked-shorter-fetal-telomere.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--