

Stopping Smoking Anytime Helps Fetal Outcomes

BY MICHELE G. SULLIVAN

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It's never too late for a pregnant woman to stop smoking.

After reviewing the records of more than 50,000 pregnancies, Dr. Nick Macklon concluded that every day a pregnant woman doesn't smoke is a good day for

her developing baby. "The more a woman smokes during pregnancy, the worse the effect on the baby," Dr. Macklon said during a press briefing. "But stopping – even at the time a woman discovers she's pregnant – can completely ameliorate the effects of smoking" on the fetal outcomes of gestational age and birth weight. "For the baby, a mom stopping in the periconceptional phase is as good as her never having smoked at all."

"We all know that smoking is bad for babies, increasing the rates of stillbirth, neonatal death, congenital malformations, preterm birth, and low birth weight – causing hardship to both parents and child. But it is also a significant public health issue in terms of cost," said Dr. Macklon of the University of Southampton, England.

Dr. Macklon and his associates reviewed the records of 50,000 women who gave birth at Southampton hospitals from 2002

to 2010. Women were divided into seven groups, depending on how much they smoked: never, stopped in the last year, stopped more than 1 year ago, stopped at confirmation of pregnancy, and current smokers of up to 10 cigarettes each day, 10-20 each day, and more than 20. About 12,000 women decided to stop smoking when they discovered their pregnancy.

For nonsmokers, the mean gestational age at birth was 280 days – significantly longer than for those who smoked up to 10 cigarettes/day (279 days), 10-20/day (277 days), and 20 or more/day (276 days).

The gestational age of infants whose mothers ceased smoking a year or longer before birth was the same as those of never-smoking mothers. The surprise was that the gestational age of infants whose mothers who gave up cigarettes only when they became pregnant was exactly the same as the infants of never-smokers. This relationship remained significant even after the researchers corrected for other factors that affect gestational age, including education and socioeconomic status.

Birth weight also showed a similar relationship with smoking. The infants of current smokers were significantly smaller than those of nonsmokers, as well as those who had quit a year or more before giving birth. Mothers who smoked up to 10 cigarettes/day had infants with a mean birth weight of 3.25 kg; mothers who smoked 10-20 cigarettes/day had infants weighing a mean 3.2 kg; and the infants of women who smoked more than 20 cigarettes/day weighed in at a mean 3.1 kg. "This effect is quite substantial, with a difference of more than 300 grams," Dr. Macklon noted. Again, however, mothers who quit smoking as soon as they became pregnant conferred a significant benefit on their infants; these infants weighed a mean 3.4 kg – the same as those of women who had never smoked.

The findings shouldn't be construed as a free license to smoke until conception, he warned. "Many women don't plan their pregnancies and if they come in smoking and pregnant and we tell them it's too late to do anything, this sends a negative, and unnecessary, message. What we can now say is 'If you stop smoking now, you and your baby will get a major health benefit.'"

Smoking directly affects transplacental oxygen and nutrient flow, contributing to low birth weight and premature delivery. But couples who want to conceive should stop smoking for other reasons as well, he advised. "Smoking is a contraceptive. It's been shown to reduce the success of in vitro fertilization by at least 50%. Smoking affects the male partner as well, lowering fertility by impairing the DNA of sperm. Couples who want to conceive quickly and healthily should both stop smoking." For women who want to quit before or during pregnancy, nicotine replacement therapy is "far less toxic than smoking, and even if we can't get a patient to stop completely I would support its use." Dr. Macklon said he had no relevant financial disclosures. ■

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