

# Smoking during pregnancy may impair thyroid function of mom and fetus

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Cigarette smoking during pregnancy is associated with potentially harmful changes in both maternal and fetal thyroid function, according to a new study accepted for publication in The Endocrine Society's *Journal of Clinical Endocrinology & Metabolism (JCEM)*.

"We studied the influence of cigarette smoking on thyroid function of two groups of women at different stages of pregnancy - one in the first trimester and the other in the third trimester," said Dr. Bijay Vaidya, Ph.D., of Peninsula Medical School at Royal Devon and Exeter Hospital in the United Kingdom, and coauthor of the study. "In both groups we found that smoking during pregnancy is associated with changes in the mothers' thyroid hormone levels."

Optimal maternal thyroid function during pregnancy is vital for a successful pregnancy outcome, said Dr. Vaidya. The adverse outcomes associated with thyroid dysfunction during pregnancy include increased risk of miscarriage, premature birth, low birth weight and impaired neuropsychological development of the baby.

Dr. Vaidya and his colleagues also measured thyroid hormone levels in the umbilical cord of babies born to smoking mothers and found that smoking-related changes in thyroid function extend to the fetus. Dr. Vaidya believes that impaired thyroid function in the fetus could have potentially harmful biological consequences.

The study also found that in mothers who stopped smoking during

pregnancy their thyroid hormone levels were comparable to levels found in non-smokers, which suggests that changes in thyroid function are rapidly reversible.

There is currently no definitive explanation for how smoking affects thyroid function, but Dr. Vaidya suggests that smoking may influence thyroid hormone levels by affecting the enzyme which converts the active form of thyroid hormone to an inactive form.

The article "Cigarette Smoking During Pregnancy is Associated with Alterations in Maternal and Fetal Thyroid Function," will appear in the February 2009 issue of JCEM.

Source: The Endocrine Society

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