

Most Prenatal Multivitamins Lack Adequate Iodine

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CHICAGO — The iodine content of prenatal multivitamins marketed in the United States is disturbingly inconsistent, according to data from a laboratory study of the products.

Most prenatal multivitamins don't contain the minimum 150 mcg of supplemental iodine per daily serving recommended for pregnant and lactating women.

Moreover, the true iodine content of many prenatal multivitamins is wildly different from what's described on the label, Dr. Angela M. Leung, a fellow in the endocrinology division, Boston University Medical Center, reported at the annual meeting of the American Thyroid Association.

This is of concern because adequate maternal dietary iodine intake is essential for normal thyroid function in the developing fetus and neonate—and that in turn is crucial to normal neurocognitive development. It's well established that even a modest iodine deficiency can cause reductions in maternal thyroxine sufficient to adversely affect cognitive function in the developing child, she stressed.

It's important to use a multivitamin that contains at least 197 mcg of potassium iodide per serving to ensure that the recommended amount is met.

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The Institute of Medicine recommends a daily iodine intake of 220 mcg during pregnancy and 290 mcg during lactation. The World Health Organization recommends 250 mcg/day for both periods. The American Thyroid Association recommends the use of vitamin supplements containing 150 mcg/day of iodine during pregnancy and lactation. These recommendations are toothless, however, because the iodine content of prenatal vitamins in the United States is not mandated or regulated.

Dr. Leung and coinvestigators found that only 28% of 96 prescription and 69% of 127 nonprescription prenatal multivitamins marketed in the United States even listed iodine as a constituent on the label. Plus, when she measured the iodine content of 35 potassium iodide-containing prenatal vitamins, she found the average was only 119 mcg—well below the recommended 150-mcg daily minimum.

The laboratory analysis also showed that the iodine content of 25 brands of prenatal multivitamins with iodine prepared from kelp was all over the map, ranging from 33 to 610 mcg.

Ten of the 25 products had an iodine content at least 50% lower than the labeled value. This striking inconsistency results from the highly variable iodine content of kelp, Dr. Leung said in an interview.

She added that although standardization of the iodine content of prenatal vitamins is an appropriate job for the federal government, as an interim measure she'd like to see the vitamin industry develop product labeling and consistency standards.

In the meantime, what can physicians do to ensure that their pregnant and lactating patients are getting sufficient iodine for normal neurocognitive development in their offspring? Dr. Leung recom-

mended avoiding kelp-containing prenatal multivitamins, which are typically touted as "natural."

Instead, she continued, stick to those containing iodine derived from potassium iodide, which she and her colleagues found were much more likely to contain an amount of iodine close to that listed on the label.

However, because the actual iodine content is only 76% of the labeled potassium iodide, it's important to use a multivitamin

that contains at least 197 mcg of potassium iodide per serving to ensure that the American Thyroid Association's recommendation of 150 mcg of supplemental iodine is met.

Iodine deficiency is the leading preventable cause of mental retardation worldwide. Iodine deficiency affects more than 2.2 billion people—38% of the world's population, Dr. Leung observed.

Dr. Leung stated that she had no conflicts of interest relating to the study. ■

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References: 1. Centers for Disease Control and Prevention (CDC). Preventing tetanus, diphtheria, and pertussis among adults: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccine: recommendations of the Advisory Committee on Immunization Practices (ACIP) and recommendation of ACIP, supported by the Healthcare Infection Control Practices Advisory Committee (HICPAC), for use of Tdap among health-care personnel. *MMWR*. 2006;55(RR-17):21-22. 2. CDC. Preventing tetanus, diphtheria, and pertussis among adolescents: use of tetanus toxoid, reduced diphtheria toxoid and acellular pertussis vaccines: recommendations of the Advisory Committee on Immunization Practices (ACIP). *MMWR*. 2006;55(RR-3):22.

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