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## **UAMS-led International Study Provides Insight on Maternal Thyroid Function, Risk of Gestational Hypertension**

LITTLE ROCK — Results of an international four-year project led by Spyridoula Maraka, M.D., M.S., an assistant professor of medicine at the University of Arkansas for Medical Sciences (UAMS), were [published this month in \*The Lancet Diabetes & Endocrinology medical journal\*](#), clarifying an association between maternal thyroid function and a risk of gestational hypertension.

*The Lancet Diabetes & Endocrinology* is part of *The Lancet* family of peer-review journals. Founded in 1823 and based in the United Kingdom, *The Lancet* is among the world's oldest and most respected medical journals.

Maraka, who is the director of the Endocrinology Fellowship program at UAMS, was the senior leader of the first-ever project to examine the association of gestational thyroid disease with gestational hypertension and preeclampsia, using individual participant data meta-analysis from prospective cohort studies around the world. She also is a member of the American Thyroid Association Task Force for updating the guidelines for the diagnosis and management of thyroid disease in pregnancy.

Maraka and primary author Freddy Toloza Bonilla, M.D., a former research fellow at UAMS who is now a UAMS research collaborator and an internal medicine resident at MetroWest Medical Center in Framingham, Massachusetts, worked closely with researchers at the Erasmus University Medical Center in The Netherlands and the Consortium on Thyroid and Pregnancy, an international endocrinology research collaboration that aims to analyze studies examining the diagnosis of, risk factors for and clinical impact of gestational thyroid disease.

The study found that subclinical hypothyroidism, a condition of mild thyroid deficiency, was associated with a higher risk of preeclampsia and the composite outcome of gestational hypertension or preeclampsia. Both a higher and a lower thyroid-stimulating hormone concentration (a marker of thyroid status) were associated with a higher risk of preeclampsia.

“Hypertensive disorders such as preeclampsia are among the leading causes of death in pregnant women and their fetuses, especially in third-world countries,” Toloza said. “The association between abnormalities in thyroid function and hypertensive disorders of pregnancy has been assessed in multiple studies with inconsistent results, which could be due to methodological issues.

“Our approach enabled us to achieve robust and unbiased results that can be applied readily into clinical guidelines and can form the basis of future research,” Maraka said. “This approach is a highly efficient way of adding a large body of new data to the field by reanalyzing previously collected data immediately, according to current standards.”

The authors conclude, “These findings have potential implications for defining the optimal treatment target in women treated with levothyroxine (thyroid hormone) during pregnancy, which needs to be assessed in future interventional studies.”

Funding for the study came from the Arkansas Biosciences Institute at UAMS and Netherlands Organization for Scientific Research.

UAMS is the state's only health sciences university, with colleges of Medicine, Nursing, Pharmacy, Health Professions and Public Health; a graduate school; a hospital; a main campus in Little Rock; a Northwest Arkansas regional campus in Fayetteville; a statewide network of regional campuses; and seven institutes: the Winthrop P. Rockefeller Cancer Institute, Jackson T. Stephens Spine & Neurosciences Institute, Harvey & Bernice Jones Eye Institute, Psychiatric Research Institute, Donald W. Reynolds Institute on Aging, Translational Research Institute and Institute for Digital Health & Innovation. UAMS includes UAMS Health, a statewide health system that encompasses all of UAMS' clinical enterprise. UAMS is the only adult Level 1 trauma center in the state. *U.S. News & World Report* recognized UAMS Medical Center as a Best Hospital for 2021-22; ranked its ear, nose and throat program among the top 50 nationwide for the third year; and named five areas as high performing — colon cancer surgery, diabetes, hip replacement, knee replacement and stroke. *Forbes* magazine ranked UAMS as seventh in the nation on its Best Employers for Diversity list. UAMS also ranked in the top 30% nationwide on *Forbes*' Best Employers for Women list and was the only Arkansas employer included. UAMS has 3,047 students, 873 medical residents and fellows, and six dental residents. It is the state's largest public employer with more than 10,000 employees, including 1,200 physicians who provide care to patients at UAMS, its regional campuses, Arkansas Children's, the VA Medical Center and Baptist Health. Visit [www.uams.edu](http://www.uams.edu) or [www.uamshealth.com](http://www.uamshealth.com). Find us on [Facebook](#), [Twitter](#), [YouTube](#) or [Instagram](#).

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