

# New research shows that women with pulmonary hypertension have chance at safe pregnancy

August 23 2022

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For women with pulmonary hypertension, a condition in which blood flow from the heart to the lungs is under dangerously high pressure,

pregnancy is risky. In fact, it is often life-threatening, with maternal-fetal mortality rates hovering around 30 to 50 percent.

Women with pulmonary [hypertension](#) who become pregnant require specialized care. Thanks to the Temple Heart & Vascular Institute's Pulmonary Hypertension, Right Heart Failure & CTEPH/PTE Program, that care is available—and it is getting better. In a new study, researchers at Temple show that maternal-fetal mortality can be reduced to zero through a patient-tailored management effort focused on optimizing right heart function prior to delivery.

The study, published in the *Journal of Cardiovascular Development and Disease*, included seven pregnancies of women with pulmonary hypertension, all of which had excellent outcomes, with 100 percent survival for mothers and infants—a success rate unheard of in published literature thus far.

"While the medical recommendation for women with pulmonary hypertension is to avoid [pregnancy](#), we need to be able to safely care for these patients when pregnancy occurs," said Anjali Vaidya, MD, FACC, FASE, FACP, Professor of Medicine at the Lewis Katz School of Medicine at Temple University, Co-Director of the Pulmonary Hypertension, Right Heart Failure & CTEPH Program, and lead author on the new study.

According to Dr. Vaidya, expertise for pulmonary hypertension is typically insufficient to meet the broad needs of patients. The combination of pulmonary hypertension and pregnancy presents unique medical challenges, owing to the additional stress that pregnancy and delivery place on the heart.

Pulmonary hypertension is marked by elevated pressure in the blood vessels running from the right side of the heart through the lungs to the

left side of the heart, which causes right heart failure and can result in decreased blood-oxygen levels. Symptoms of shortness of breath, fatigue, dizziness, passing out, and chest pain can ultimately result in maternal and fetal death.

According to Paul Forfia, MD, Professor of Medicine at the Lewis Katz School of Medicine and Co-Director of the Pulmonary Hypertension, Right Heart Failure & CTEPH Program, pulmonary hypertension is too often considered as an automatic contraindication to pregnancy, before a thoughtful and expert assessment is undertaken. "We have developed a conceptual framework for the assessment and management of pregnant women with pulmonary hypertension that allows for a physiology-based and relatively objective approach to management that most often leads to predictable and very favorable outcomes for the mother and baby," he explained.

The difference is in the multidisciplinary collaboration of colleagues which Drs. Forfia and Vaidya have created within Temple Heart and Vascular Institute's nationally accredited Pulmonary Hypertension Program, Maternal Fetal Medicine, and Obstetric Anesthesiology. The cross-specialty management program consists of individually tailored therapy for pulmonary hypertension and clinical assessment for the duration of pregnancy and postpartum, with special attention given to right heart function.

"Managing patients with pulmonary hypertension who are pregnant requires a multidisciplinary approach," said Laura Hart, MD, Assistant Professor in the Division of Maternal Fetal Medicine, Department of Obstetrics, Gynecology, and Reproductive Sciences at the Lewis Katz School of Medicine.

"Our situation of having that combined expertise within Temple is unique," Dr. Hart explained. "Not only do we have experts in the

necessary fields, including in pulmonary hypertension, obstetric anesthesia, and maternal-fetal medicine, but we also have the ability to co-locate and bring cardiologists into the labor and delivery process." This combination of factors puts Temple in an excellent position to provide tailored care for pregnant women with pulmonary hypertension.

The Temple researchers hope that their work will inform the development of similar multidisciplinary efforts at other institutions. "We want others to see this work and be inspired to improve outcomes for [pregnant women](#) with [pulmonary hypertension](#)," Dr. Vaidya said. "Ultimately, patients need to be referred early to enable effective and expert clinical assessments, allowing us to safely optimize care for each individual."

**More information:** Anjali Vaidya et al, Management of Pulmonary Arterial Hypertension in Pregnancy: Experience from a Nationally Accredited Center, *Journal of Cardiovascular Development and Disease* (2022). [DOI: 10.3390/jcdd9060195](https://doi.org/10.3390/jcdd9060195)

Provided by Temple University

Citation: New research shows that women with pulmonary hypertension have chance at safe pregnancy (2022, August 23) retrieved 27 April 2024 from <https://medicalxpress.com/news/2022-08-women-pulmonary-hypertension-chance-safe.html>

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