



HiP-India: Understanding the effects of extreme heat in pregnancy – March 2024



The George Institute
for Global Health

Facts:

- 25 million babies are born in India every year.
- Occupational heat stress exposure has shown to double the rate of miscarriage in India.
- Heatwaves in India could breach survivable temperatures for people resting in shade by 2050.

Project Cycle:

2024–2028

Partners:

Translational Health Science and Technology Institute

Imperial College London

Sri Ramachandra Institute of Higher Education and Research

The University of Oxford

St George's University of London

Indian Institute of Technology Delhi

Pondicherry Institute of Medical Sciences

Chhattisgarh Institute of Medical Sciences

CareMother

Supporters:

The Wellcome Trust

Principal Investigator:

Professor Jane Hirst & Dr D Praveen



Background:

- India has made significant strides in maternal and prenatal care in the last 20 years, but climate change now threatens this progress.
- Extreme heat exposure leads to poorer birth outcomes, but there is a significant evidence gap surrounding the risks of heat in pregnancy.
- A better understanding is needed to develop effective adaptations that protect maternal and newborn health.

Aims:

- Heat in Pregnancy – India (HiP-India) is a multi-partner coalition of researchers across India and the UK seeking to understand why exposure to extreme heat leads to adverse birth outcomes.
- HiP-India will help answer when exposure to heat during pregnancy is most harmful, the safe temperature limits for pregnant women to work in, and the physiological basis for adverse outcomes.

Methods:

- 600 pregnant women across three regions in India (Haryana, Chhattisgarh, and Puducherry) will be monitored for their physiological responses to heat exposure at work.
- Existing data will be used to analyse how temperature changes affect placenta function, fetal heart rate and blood circulation.
- Researchers will study how heat affects the quality and quantity of breast milk production.

Impact:

- HiP-India will work with policymakers as well as women's and community groups in India to identify and support local solutions for protection against extreme heat.
- Findings will help to develop guidance for pregnant women exposed to extreme heat around the world.

Contact:

To find out more about this project and its principal investigators or The George Institute please contact Tina Wall +61 410 411 983 or twall@georgeinstitute.org.au

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