Protecting those most at risk from heat stress in Tamil Nadu

Recent evidence and direction for further study

Overview

In the rising context of environmental change and degradation, some people are more at risk of adverse health outcomes than others. Pregnant women in Tamil Nadu face increasing exposure to extreme heat and poor air quality—two environmental risks strongly associated with adverse maternal and neonatal outcomes. Despite this, heat-health counselling is not yet part of routine antenatal care in Primary Health Centres (PHCs), which serve as the main point of contact for rural pregnant women.



We want to make it easier for pregnant women to stay healthy during hot weather. This research helps us learn what advice resonates, what tools PHCs can use, and how small changes—like posters or short counselling sessions—can make a big difference for women and their babies.

Context

- Temperatures in many districts of Tamil Nadu regularly exceed **40°C**, and heatwaves are becoming more frequent.
- Exposure to high temperatures during pregnancy is linked to **preterm birth, low birth weight, gestational hypertension, and stillbirth**.
- Indoor air pollution from biomass cooking fuels compounds these risks.
- Heat-health counselling—simple guidance on protective behaviours and early warning signs—is a **low-cost, evidence-based intervention** but is currently absent from routine antenatal care.

Initial Study: Evidence from Three PHCs

A survey of **100 pregnant women** attending three PHCs assessed current knowledge and counselling practices.

Key Findings

- **20%** received any heat-health counselling from PHC staff.
- **26%** felt PHC staff were knowledgeable about pregnancy-specific heat protection.
- **82%** reported improved understanding of heat risks after viewing PHC posters.
- **90%** expressed intent to follow heat-prevention advice after a brief session.
- Women exposed to multiple information channels were **2.4 times more likely** to adopt protective behaviours (OR 2.4; 95% CI: 1.2–4.8).

Next phase of research

The expanded study will involve **300 pregnant women** across **50 HCWs** in Tamil Nadu. It aims to generate robust, scalable evidence on how best to integrate heat-health guidance into antenatal care.



Core Components

- **Structured awareness sessions** on heat and air-pollution risks for pregnant women.
- **Training for PHC staff and ASHAs** on pregnancy-specific heat-health counselling.
- **Pre- and post-intervention assessments** to measure changes in knowledge and behaviour.
- **Evaluation of visual aids** as a low-cost, PHC-appropriate communication tool.

Intended outcome

This research seeks to build an evidence base on how PHCs can effectively deliver heat-health information to pregnant women, with the goal of reducing preventable heat-related maternal and neonatal risks. Our work aims to make sure every pregnant woman in Tamil Nadu knows how to stay safe during extreme heat. By understanding what information really helps women and what support PHCs can easily provide, we hope to create simple, practical ways to protect mothers and babies when temperatures rise.

Find out more or get involved

We would especially like to hear from:

- **Healthcare professionals and programme managers** working in antenatal care, community health, or PHC systems who are interested in piloting or adapting heat-health counselling in their settings.

- **Policy makers and government health officials** — particularly within the Tamil Nadu Directorate of Public Health, National Health Mission, and District Health Offices — who are shaping antenatal care guidelines or Heat Action Plans.

We are actively seeking to connect with people who share a commitment to protecting pregnant women from heat-related harm in Tamil Nadu and beyond.

Contact us at:

Dr. Rekha S, Project Scientist
Sri Ramachandra Institute of Higher Education and Research (DU)
Email: Rekha@ehe.org.in