

# Climate change, smog could mean more preemie babies: study

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(HealthDay)—Here's more bad news associated with climate change:

Pregnant women exposed to air pollution or heat waves face a greater risk of having a preterm or underweight baby, a new research review finds.

The review, of 68 studies from across the United States, found that the large majority arrived at the same conclusion: Babies were at greater risk when their mothers lived in areas with poorer air quality or more oppressive [heat](#).

"The data are mostly pointing in the same direction," said lead researcher Dr. Bruce Bekkar, a women's health physician who is retired from the Southern California Permanente Medical Group, in San Diego.

It's not possible to "put a number" on the risks, said Bekkar. The studies in the review were all conducted differently and looked at different outcomes. Instead, the researchers wanted to see whether the studies were consistent in the associations they found.

"And there was a consistent and strong positive association between [air pollution](#) and heat exposure, and these bad pregnancy outcomes," Bekkar said.

It all adds to concerns about the many possible health effects of climate change, Bekkar said. Global warming, he noted, not only drives "extreme weather events"—like [heat waves](#), droughts and floods—but is also closely connected to air pollution, as the two feed each other.

"I can't think of a group we need to protect more than [pregnant women](#) and their children," Bekkar said.

He and his colleagues reported the findings online June 18 in *JAMA Network Open*.

The review included 68 studies done in various U.S. states, covering a total of almost 32.8 million births.

Of 57 studies looking at air pollution, 84% found that women in more-polluted areas were at higher risk of a negative pregnancy outcome. The same was true for nine out of 10 studies on heat exposure.

Most of the studies looked at newborns' risk of being premature or underweight. But a few examined stillbirths, and largely found a higher risk with greater exposure to air pollution or heat.

The studies could not measure pregnant women's actual exposure to pollutants in their daily lives. Instead, Bekkar said, they looked at broader patterns—like whether preterm births were more common in ZIP codes with poorer air quality.

It is tricky to weed out the effects of air pollution or heat from the many other factors that affect pregnancy outcomes, according to Dr. Rahul Gupta, chief medical officer at the nonprofit March of Dimes.

However, Gupta said, "we're seeing an increasing amount of data demonstrating an association."

Beyond that, Gupta said, there are biological reasons that both dirty air and high temperatures could be risky for mothers-to-be.

The tiny pieces of particulate matter present in air pollution can be inhaled deeply into the lungs and cause widespread inflammation in the body. Women with chronic health conditions, like asthma, may be particularly susceptible, Gupta noted. In line with that, the review found, the link between air pollution and pregnancy complications was stronger among women with asthma.

Oppressive heat is a problem partly because pregnancy alters the body's ability to regulate temperature, Gupta said. Research suggests heat may contribute to preterm labor or [low birth weight](#) by altering blood flow to the placenta, or causing dehydration, among other routes.

Dr. Linda Giudice wrote an editorial published with the review. She called the findings "remarkable," because despite the many differences in how the studies were done, most came to the same general conclusion.

Giudice is founder of the Program for Reproductive Health and the Environment at the University of California, San Francisco. She pointed to some steps women can take to protect themselves: Don't smoke, and try to avoid secondhand smoke and traffic pollution.

But for people who want to see broader efforts, Giudice and Bekkar both recommended advocating for policies aimed at [climate change](#), and voting accordingly.

Climate change is, in fact, a public health issue that needs a societal response, Gupta said.

In general, low-income women and [women](#) of color have the highest rates of [preterm birth](#) and low birth weight in the United States. They are also disproportionately exposed to air [pollution](#), Gupta said. Yet, he added, they have fewer resources to help protect themselves.

**More information:** The International Federation of Gynecology and Obstetrics has more on [climate change and health](#).

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