

Heat waves reduce length of pregnancy

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When temperatures reach 32°C or higher over a period of four to seven days, the risk of early-term delivery is 27% higher than on typical summer days, according to a study led by Nathalie Auger of the University of Montreal's Department of Social and Preventive Medicine. The study involved data from 300,000 births that took place in Montreal between 1981 to 2010 with summer temperatures recorded by Environment Canada during this period. Auger is also affiliated with the university's CHUM Superhospital Research Centre.

The research team sought to identify, from June through September, the probability of preterm (less than 37 gestational weeks), early-term (37-38 weeks), and full-term (39 weeks or more) deliveries during a heat wave. Specifically targeting summer births, Auger found that nearly 20,000 deliveries occurred in the week following a day when the

mercury reached 32°C or higher.

After adjusting for certain variables, including age of mother, birth order, and humidity during heat waves, Auger found that extreme heat did not seem to increase the number of preterm births. "We observed a only a negligible increase in the rate of preterm births between days when the temperature was below 20°C and those when it was above 28°C, from 5.4% to 5.8%," Auger explained. However, in women who reached 37 or 38 weeks of pregnancy, the risk of early-term delivery increased by 17% following a three-day episode of 32°C or more, compared to days without a heat wave. When the extreme heat episode lasted from 4 to 7 days, the risk reached 27%.

Impact on early-term newborns?

According to Auger, the adverse effects of high temperatures on the elderly are well documented, but little research has dealt with the impact of heat on pregnant women. "Small-scale studies suggest that [heat](#)-induced stress increases uterine contractility, during a period of pregnancy when thermoregulation seems less effective," Auger said. "We also suspect that dehydration resulting from high ambient [temperature](#) reduces the blood supply to the uterus, increasing the release of pituitary hormones that induce labour."

Auger believes that the increased risk of early-term delivery due to high temperatures may result in increased morbidity in newborns. "Studies have shown that children born at 37 or 38 weeks suffer more respiratory problems compared with children born at term," Auger said. "Early-term newborns are also at greater risk of death."

Provided by University of Montreal

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