Stillbirth Risk During High Outdoor Temperatures in Canada

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Background

Risks factors for stillbirth are poorly understood, including the possible impact of high outdoor temperature.

Elevated temperatures may stress pregnant women, particularly at term, and be a risk factor for stillbirth.



Conclusion

Elevated outdoor temperature may be a novel risk factor for stillbirth, especially at term, and for stillbirths due to maternal complications or undetermined causes.



Methods

Data 5,047 stillbirths and 1,370,779 live births in Quebec, Canada, April-September, 1981-2011

Exposure Maximum daily temperatures the estimated day before death, Environment Canada

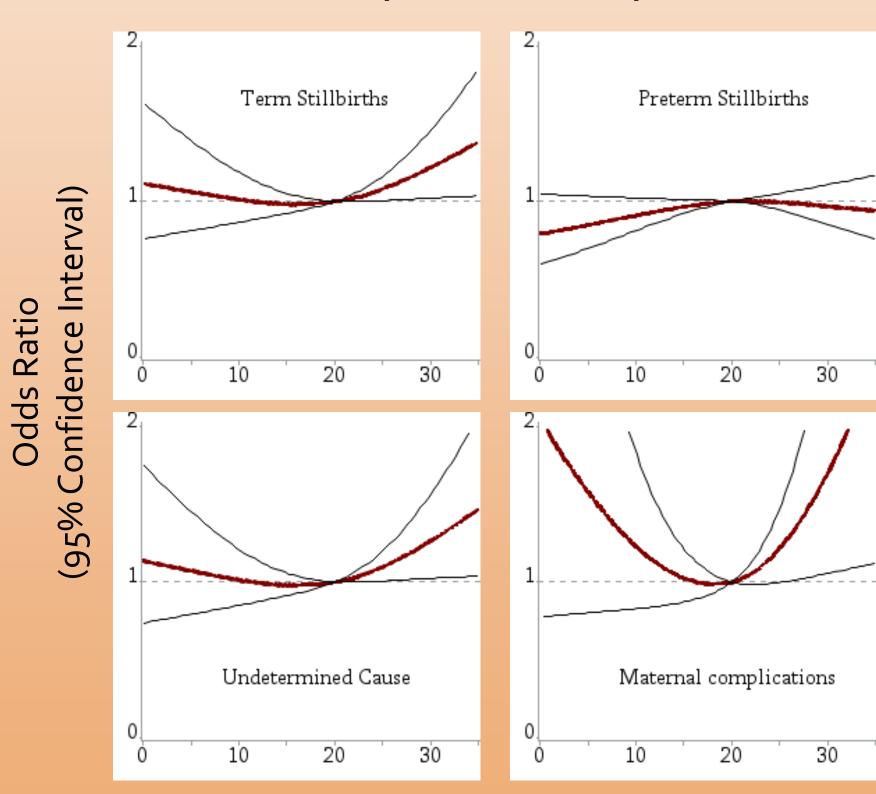
Outcome Stillbirth by week of gestation (preterm, term), and cause (undetermined, maternal, placenta/cord/membranes, birth asphyxia, congenital anomaly, other)

Analysis Study design = Case-crossover Conditional logistic regression to estimate odds ratios between temperature and stillbirth, adjusted for relative humidity



Results

Figure 1 Association between stillbirth and maximum temperature the day before death



Temperature, °C



3 Results

Table 1 Risk of stillbirth with elevated temperature the day before death

No. Stillbirths Odds Ratio (95%CI)

	(N=5,047)	30°C vs. 20°C
Gestational age		
Term	1,693	1.22 (1.02-1.46)
Preterm	3,198	0.97 (0.85-1.11)
Cause of death		
Undetermined	1,190	1.28 (1.02-1.59)
Maternal	248	1.72 (1.06-2.80)
Placenta, cord, membranes	1,671	0.93 (0.77-1.12)
Birth asphyxia	301	1.15 (0.75-1.77)
Congenital anomaly	697	0.97 (0.73-1.29)
Remaining causes	940	0.90 (0.70-1.15)

