



## ABSTRACT E-BOOK

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Birth and Pregnancy Outcomes » Birth outcomes

### Global warming increases the risk of the stillbirth: a ten years follow-up study in Taiwan

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**BACKGROUND AND AIM:** Few studies have examined heat with respect to the risk of stillbirth. This study explored the association between ambient temperature and stillbirth in Taiwan.

**METHODS:** This study collected monthly stillbirths, air pollution, and meteorological variables in Taiwan from 2009 to 2018. We apply time-series analysis and use exponential smoothing to predict the risk of stillbirth in the next five years. The distributed hysteresis nonlinear model (DLNM) is used to study the associated hysteresis effect of temperature on stillbirth.

**RESULTS:** A total of 22,769 cases of stillbirth were reported, with a mean stillbirth rate of 1.13±0.14%. Risks were elevated during the warm season (May–July). There is an increasing trend of stillbirth together with ambient temperature. Chronic exposure to warm temperatures (27–30°C) (RR = 1.08, 95% CI 1.05, 1.12) and high temperature (>30°C) significantly increased the risk of stillbirth (RR = 1.15, 95% CI 1.04, 1.24). The effects of heat on stillbirth were observed in the first month of pregnancy at lag 10 and one month before delivery at lag 1.

**CONCLUSIONS:** Pregnant women in subtropical Asia countries are at increased risk of stillbirth during the hot season. The government should take the thermal effect on stillbirth seriously and formulate effective preventive strategies to mitigate the health burden of global warming.

**Keywords:** stillbirth, temperature, DLNM