

SEPTINTOJI TARPTAUTINĖ KONFERENCIJA

THE 7th INTERNATIONAL CONFERENCE

2026 m. liepos mėn. 7-10 d., Vilniaus universitetas, LIETUVA

7th-10th of July, 2026, Vilnius University, LITHUANIA

**EVOLIUCINĖ MEDICINA:
ŽMOGAUS RAIDOS PERSPEKTYVOS IR SVEIKATA
BESIKEIČIANČIOJE APLINKOJE**

**EVOLUTIONARY MEDICINE:
PERSPECTIVES ON HUMAN DEVELOPMENT AND HEALTH
CONSEQUENCES IN A CHANGING ENVIRONMENT**

Rengėjas:

Vilniaus universiteto Medicinos ir sveikatos mokslų
Doktorantūros mokykla, VU Medicinos fakultetas

Organized by

the Doctoral School of Medicine and Health sciences
at Vilnius University, VU Faculty of Medicine

INTERNATIONAL SCIENTIFIC COMMITTEE

Karolis AŽUKAITIS (Vilnius University, Lithuania)
Noël CAMERON (Loughborough University, UK)
Janet CARTON (University College Dublin, Ireland)
Dalius JATUŽIS (Vilnius University, Lithuania)
Maria KACZMAREK (Adam Mickiewicz University, Poland)
Sylvia KIRCHENGAST (University of Vienna, Austria)
Lawrence M. SCHELL (University at Albany, S.U.N.Y, USA)
Wojciech ŚLUSARCZYK (Nicolaus Copernicus University in Torun, Poland)
Janina TUTKUVIENĖ (Vilnius University, Lithuania)
Aistis ŽALNORA (Vilnius University, Lithuania)

LOCAL ORGANIZING COMMITTEE

(Faculty of Medicine, Vilnius University)

Chair:

Janina TUTKUVIENĖ

Conference booklet coordinator:

Rūta MORKŪNIENĖ

Conference Secretary:

Eglė Marija JAKIMAVIČIENĖ

Members:

Justina ALČAUSKAITĖ
Arūnas BARKUS
Elvin Francišek BOGDZEVIČ
Ramunė ČEPULIENĖ
Airida DOSINAITĖ
Rasa JANULIONIENĖ
Kristupas KURMINAS
Rūta MORKŪNIENĖ
Laura NEDZINSKIENĖ
Juozapas RYLIŠKIS
Evita ŠEIKOVAITĖ
Mindaugas SMETANINAS
Eglė STUKAITĖ-RUIBIENĖ
Sofija ŠESTAK
Renata ŠIMKŪNAITĖ-RIZGELIENĖ
Rūta VOSYLIŪTĖ
Violeta ŽALGEVIČIENĖ

MATERNAL EXPOSURE TO TEMPERATURE EXTREMES AND IMPAIRED FOETAL GROWTH OUTCOMES: A SYSTEMATIC REVIEW

Julija BLAZYTE¹, Gerda DEVEIKIENE^{1,2}, Gintautas DOMZA^{1,2}, Jelena VOLOCHOVIC^{1,2}

¹Clinic of Obstetrics and Gynecology, Institute of Clinical Medicine, Faculty of Medicine, Vilnius University, Vilnius, Lithuania

²Center of Obstetrics and Gynecology, Vilnius University Hospital Santaros Klinikos, Vilnius, Lithuania

Contact e-mail: gerdacesnaite@gmail.com

Background and Aim: Climate change has increased the frequency and intensity of temperature extremes worldwide. Growing evidence suggests that thermal stress during pregnancy may adversely affect foetal growth. This review aimed to evaluate the association between maternal exposure to temperature extremes and impaired foetal growth outcomes, including foetal growth restriction (FGR), small-for-gestational-age (SGA) birth, and low birth weight (LBW).

Materials and Methods: A systematic literature review was conducted according to PRISMA guidelines. Articles published between 2018 and 2024 were identified in PubMed and Wiley Online Library. Studies assessing the effects of temperature extremes on FGR, SGA, and LBW were included. Six studies involving more than 1.97 million pregnancies and mother–infant pairs met the inclusion criteria.

Results: Most studies reported significant associations between temperature extremes and impaired foetal growth outcomes. High ambient temperatures and heatwave exposure were consistently associated with increased risks of FGR and LBW. A large prospective cohort study reported a 14–16% increase in FGR risk following high-temperature exposure during pregnancy. Heatwave exposure was associated with more than a twofold increase in FGR risk. Population-based studies also demonstrated increased odds of LBW among pregnancies exposed to extreme heat. Some studies identified adverse effects of unusually low temperatures, suggesting a non-linear relationship between ambient temperature and foetal growth. Associations were generally stronger among women with lower socioeconomic status.

Conclusions: Exposure to temperature extremes during pregnancy is associated with an increased risk of impaired foetal growth outcomes. These findings highlight temperature extremes as important environmental determinants of foetal growth and support the development of public health and antenatal care strategies aimed at reducing maternal vulnerability to climate-related thermal stress.

Keywords: climate change, foetal growth restriction, low birth weight, small for gestational age, temperature extremes