

AIR POLLUTION

AIR POLLUTION DURING PREGNANCY AND LOW BIRTH WEIGHT IN DOROG, HUNGARY

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Objectives: Low birth weight may have negative impact on the children's health in later life. Therefore risk factors contributing to low birth weight should be identified and eliminated. We studied the association between foetal exposure to some air pollutants and the frequency of low birth weight in a small industrial town of Hungary.

Methods: Scrutinized were antenatal care documents of all pregnant women living in Dorog covering a 7-year-period between 2000–2006. Air pollution data (PM₁₀, NO₂, SO₂, CO, O₃) were provided by the local Air Monitoring Network. From the 24-hour concentrations, both weekly average and weekly maximum levels were calculated and used for the analysis. Foetal exposure to the monitored air pollutants were determined for each week of pregnancy and their associations with birth weight of single, full-term babies were analysed.

Results: Over 7% of babies were born with birth weight <2500 g. Exposure to SO₂ over 30 µg/m³ (vs. <10 µg/m³) on weeks 35–38 and increased concentrations (>2 mg/m³) of CO between weeks 21–28 were associated with higher risk of low birth weight.

Conclusions: Increased levels of certain air pollutants during different periods of pregnancy may increase the risk of low birth weight.

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