

# THE RELATIONSHIP OF RESIDENCE DISTANCE FROM PUBLIC GREEN PARKS IN KAUNAS TO PRETERM BIRTH RISK

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**Background and Aims** There is some evidence that access to urban green spaces is associated with an increased physical activity, decreased stress level, and improved people's life quality and reduced health problems. We examined the associations between residence distance from green space (parks) and preterm birth.

**Methods:** We conducted a prospective pregnant women cohort study in Kaunas (Lithuania) and estimated 3,341 maternal residence distance from green space classified as a Formal park. Women's home locations were mapped using the ArcGIS 9.2 Geographical Information System (GIS) and combined with a comprehensive GIS database of neighbourhood and green space characteristics. Preterm birth was defined as infant's whose gestational age was less than 37 weeks. According to the distance from the residents' homes of each respondent to the nearest park, we determined three women groups: residing within 300 m (referent group), 300-1000 m and more than 1000 m. The associations between distance from parks and singleton preterm birth were analyzed by logistic regression models with and without adjustment for maternal education, family status, renal diseases, diabetes, cardiovascular disease, stress, body mass index, smoking, alcohol consumption, parity, previous preterm birth, infant birth year, and NO<sub>2</sub> exposure.

**Results:** We found positive associations between women home distance to the nearest park and preterm birth. The adjusted risk ratio of delivering a preterm birth infant among women residing within a 300-1000 m from park was 0.90, 95% CI 0.61-1.31 and among women residing above 1000 m from park it was 1.58, 95% CI 1.00-2.51 to compare to the referent women group. Similar results were found when from the model was excluded NO<sub>2</sub> exposure effect.

**Conclusion:** The findings suggest that there is an association between home location within 1000 m to green spaces classified as a Formal park in urban areas and preterm birth risk.