

Publication

Long-term exposure to traffic-related air pollution and diabetes: a systematic review and meta-analysis

JournalArticle (Originalarbeit in einer wissenschaftlichen Zeitschrift)**ID** 4694335**Author(s)** Kutlar Joss, M.; Boogaard, H.; Samoli, E.; Patton, A. P.; Atkinson, R.; Brook, J.; Chang, H.; Haddad, P.; Hoek, G.; Kappeler, R.; Sagiv, S.; Smargiassi, A.; Szpiro, A.; Vienneau, D.; Weuve, J.; Lurmann, F.; Forastiere, F.; Hoffmann, B. H.**Author(s) at UniBasel** [Kutlar Joss, Meltem](#) ; [Kappeler, Ron](#) ; [Vienneau, Danielle](#) ;**Year** 2023**Title** Long-term exposure to traffic-related air pollution and diabetes: a systematic review and meta-analysis**Journal** International journal of public health**Volume** 68**Pages / Article-Number** 1605718**Mesh terms** Adult; Humans; Air Pollutants, analysis; Air Pollution, analysis; Environmental Exposure, analysis; Diabetes Mellitus, etiology; Incidence; Particulate Matter, analysis

Objectives: We report results of a systematic review on the health effects of long-term traffic-related air pollution (TRAP) and diabetes in the adult population. **Methods:** An expert Panel appointed by the Health Effects Institute conducted this systematic review. We searched the PubMed and LUDOK databases for epidemiological studies from 1980 to July 2019. TRAP was defined based on a comprehensive protocol. Random-effects meta-analyses were performed. Confidence assessments were based on a modified Office for Health Assessment and Translation (OHAT) approach, complemented with a broader narrative synthesis. We extended our interpretation to include evidence published up to May 2022. **Results:** We considered 21 studies on diabetes. All meta-analytic estimates indicated higher diabetes risks with higher exposure. Exposure to NO₂ was associated with higher diabetes prevalence (RR 1.09; 95% CI: 1.02; 1.17 per 10 mug/m(3)), but less pronounced for diabetes incidence (RR 1.04; 95% CI: 0.96; 1.13 per 10 mug/m(3)). The overall confidence in the evidence was rated moderate, strengthened by the addition of 5 recently published studies. **Conclusion:** There was moderate evidence for an association of long-term TRAP exposure with diabetes.

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