

Publication**Multiple air pollutants exposure and leukaemia incidence in Tehran, Iran from 2010 to 2016: a retrospective cohort study****Journal Article (Originalarbeit in einer wissenschaftlichen Zeitschrift)****ID** 4651660**Author(s)** Khorrami, Z.; Pourkhosravani, M.; Eslahi, M.; Rezapour, M.; Akbari, M. E.; Amini, H.; Taghavi-Shahri, S. M.; Künzli, N.; Etemad, K.; Khanjani, N.**Author(s) at UniBasel** [Künzli, Nino](#) ;**Year** 2022**Title** Multiple air pollutants exposure and leukaemia incidence in Tehran, Iran from 2010 to 2016: a retrospective cohort study**Journal** BMJ Open**Volume** 12**Number** 6**Pages / Article-Number** e060562

Mesh terms Air Pollutants, analysis; Air Pollution, analysis; Environmental Exposure, analysis; Humans; Incidence; Iran, epidemiology; Leukemia, etiology; Particulate Matter, analysis; Retrospective Studies

Leukaemia is one of the most common cancers and may be associated with exposure to environmental carcinogens, especially outdoor air pollutants. The objective of this study was to investigate the association of ambient air pollution and leukaemia in Tehran, Iran., In this retrospective cohort study, data about the residential district of leukaemia cases diagnosed from 2010 to 2016 were inquired from the Ministry of Health cancer database. Data from a previous study were used to determine long-term average exposure to different air pollutants in 22 districts of Tehran. Latent profile analysis (LPA) was used to classify pollutants in two exposure profiles. The association between air pollutants and leukaemia incidence was analysed by negative binomial regression., Twenty-two districts of Tehran megacity., Patients with leukaemia., The outcome variables were incidence rate ratios (IRR) of acute myeloid and lymphoid leukaemia across the districts of Tehran., The districts with higher concentrations for all pollutants were near the city centre. The IRR was positive but non-significant for most of the air pollutants. However, annual mean NOx was directly and significantly associated with total leukaemia incidence in the fully adjusted model (IRR (95% CI): 1.03 (1.003 to 1.06) per 10 ppb increase). Based on LPA, districts with a higher multiple air-pollutants profile were also associated with higher leukaemia incidence (IRR (95% CI): 1.003 (0.99 to 1.007) per 1 ppb increase)., Our study shows that districts with higher air pollution (nitrogen oxides and multipollutants) have higher incidence rates of leukaemia in Tehran, Iran. This study warrants conducting further research with individual human data and better control of confounding.

URL <https://doi.org/10.1136/bmjopen-2021-060562>**edoc-URL** <https://edoc.unibas.ch/90588/>**Full Text on edoc** Available;**Digital Object Identifier DOI** 10.1136/bmjopen-2021-060562**PubMed ID** <http://www.ncbi.nlm.nih.gov/pubmed/35732402>**ISI-Number** WOS:000815161500004**Document type (ISI)** Journal Article