Letteratura scientifica che correla l’inquinamento atmosferico all’aumentata mortalità negli uomini.

Association between Daily Hydrogen Sulfide Exposure and Incidence of Emergency Hospital Visits: A Population-Based Study

Studio condotto in Islanda che cerca di capire l'associazione tra l'esposizione a basse concentrazioni di acido solfidrico e le visite in ospedale.

PLOS ONE

RESEARCH ARTICLE

Association between Daily Hydrogen Sulfide Exposure and Incidence of Emergency Hospital Visits: A Population-Based Study

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Association between Daily Hydrogen Sulfide Exposure and Incidence of Emergency Hospital Visits: A Population-Based Study

Conclusions

The results from this study indicate an increase in hospital admission and emergency department visits with heart disease as primary diagnosis associated with H_2S concentrations exceeding 7.00 μg/m^3 the same day, more pronounced among males and among those 73 years and older. The associations were also seen with delay of two or four days. The same-day associations were gradually increasing through higher percentiles of exposure in a dose-response manner. These results were adjusted for gender, age, season, traffic-related pollution, and number of lags with generally accepted and acknowledged methods. These results are further supported by a previous study in the same setting showing increased general mortality when 24-hour H_2S concentrations exceed 7.00 μg/m^3.

Conclusioni: i risultati di questo studio indicano un aumento delle ammissioni ospedaliere ed al pronto soccorso visite con malattie cardiache come prima diagnosi associate a concentrazioni superiori a 7.00 μg/m^3 nel solito giorno, più pronunciato nei MASCHI e tra quelli di 73 anni ed oltre….

Morbidity and mortality of people who live close to municipal waste landfills: a multisite cohort study

Studio del 2016 che descrive un'aumentata mortalità negli uomini rispetto alle donne per esposizione ad inquinamento atmosferico

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Original article

Original article

Morbidity and mortality of people who live close to municipal waste landfills: a multisite cohort study

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Morbidity and mortality of people who live close to municipal waste landfills: a multisite cohort study

Abstract

Background: The evidence on the health effects related to residing close to landfills is controversial. Nine landfills for municipal waste have been operating in the Lazio region (Central Italy) for several decades. We evaluated the potential health effects associated with contamination from landfills using the estimated concentration of hydrogen sulphide (H_2S) as exposure.

Background: Gli effetti correlati alla salute legate alla presenza di discariche sono controversi. Lo studio valuta I potenziali effetti legati alla salute delle emissioni delle discariche usando le concentrazioni e le esposizioni ad acido solfidrico (H_2S).

Morbidity and mortality of people who live close to municipal waste landfills: a multisite cohort study

Results: The cohort included 242 409 individuals. H_2S exposure was associated with mortality from lung cancer and respiratory diseases (e.g. HR for increment of 1 ng/m^3 H_2S: 1.10, 95% CI 1.02–1.19; HR 1.09, 95% CI 1.00–1.19, respectively). There were also associations between H_2S and hospitalization for respiratory diseases (HR = 1.02, 95% CI 1.00–1.03), especially acute respiratory infections among children (0–14 years) (HR = 1.06, 95% CI 1.02–1.11).

Risultati: La coorte comprendeva 242 409 individui. L'esposizione ad acido solfidrico (H2S) è stata associata ad un aumento della mortalità per tumore dei polmoni malattie respiratorie: per un aumento di 1 ng/m^3 H2S si è avuto un aumento del 10 e del 19% rispettivamente (HR 1.10, 95% CI 1.02–1.19; HR 1.09, 95% CI 1.00–1.19, rispettivamente). Si è avuto un aumento anche dell'ospedalizzazione legata a malatie respiratorie acute del 2% specialmeten nei bambibni tra I 0-14 anni (6%).

Morbidity and mortality of people who live close to municipal waste landfills: a multisite cohort study

Conclusions: Exposure to H_2S, a tracer of airborne contamination from landfills, was associated with lung cancer mortality as well as with mortality and morbidity for respiratory diseases. The link with respiratory disease is plausible and coherent with previous studies, whereas the association with lung cancer deserves confirmation.

Conclusioni: l'esposizione ad acido solfidrico (H2S), come tracciante di contaminazione da discariche, è stato associato all'aumento della mortalità per tumore dei polmoni e malattie respiratorie. La connessione con le malattie respiratorie è coerente con gli studi presenti in letteratura mentre l'associazione con il tumore del polmone necessita di ulteriori conferme.

Morbidity and mortality of people who live close to municipal waste landfills: a multisite cohort study

Discussion

We found a positive association between exposure to hydrogen sulphide (H_2S), that we used as a surrogate for all the pollutants co-emitted from the landfills, and mortality for lung cancer and respiratory diseases as well as hospital admissions for respiratory diseases, especially in children.

Previous studies have investigated the association between residence close to landfills and cancer incidence or cause-specific mortality, with conflicting results. A Canadian cohort study compared cancer incidence in males living close to a landfill with that of residents of farther away areas.[1] The distance from the landfill was assigned to each person based on the residential address at diagnosis. Excess risks for non-Hodgkin lymphoma and liver, pancreas and kidney cancers were found in male residents close to the site. Malagrotta

"….L'eccesso di rischio per tumori nHL (linfomi non Hodgkin) e tumori del fegato, tumori del pancreas e del rene sono stati trovati nei MASCHI residenti vicino ai siti d'inquinamento…."

Morbidity and mortality of people who live close to municipal waste landfills: a multisite cohort study

Occupational exposure to organic dust, particulate matters from microbial, plant or animal origin, has been associated with an increased risk of lung cancer in a pooled analysis of case-control studies.[25] High lung cancer mortality was found among male residents of Italian National Priority Contaminated Sites with industrial waste landfills or illegal dumps[29] and among residents living near incinerators and landfills of hazardous waste in Spain,[30] but the overall evidence that residing near landfills is associated with increased risk of lung cancer is still inadequate.[10]

This study attempted to overcome some of the limita-

"……Un' alta incidenza di mortalità è stata trovata anche tra i MASCHI residenti in aree contaminate…"

Studio Canadese che correla
l’inquinamento dell’aria alla mortalità
negli uomini (Ref. 29 studio precedente)

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Arch Environ Health. 1999 Jul-Aug;54(4):291-6.

Risks of developing cancer relative to living near a municipal solid waste landfill site in Montreal, Quebec, Canada.

Goldberg MS[1], Siemiatyck J, DeWar R, Désy M, Riberdy H.

Author information

Abstract

In this study, we sought to determine whether men who lived near the Miron Quarry municipal solid waste landfill site in Montreal, Quebec, Canada, were at higher risk for developing cancer than individuals who lived at more remote locations. Subjects were selected from a previously completed population-based, interview, cancer case-control study of men who lived in metropolitan Montreal. Thirteen sites of cancer (n = 2 928 subjects) and a population-based control group (n = 417) were analyzed. We used the exact street address at the time of diagnosis to classify subjects by geographic zones and distance from the site. We used unconditional logistic regression to estimate odds ratios (ORs) and associated 95% confidence intervals (CIs) for each site of cancer, adjusted for key covariates. In the exposure zone nearest to the site, elevated risks were found for cancers of the pancreas (adjusted OR = 1.4 [95% CI = 0.8, 2.6]); liver (OR = 1.8 [95% CI = 0.8, 4.3]); and prostate (OR = 1.5 [95% CI = 1.0, 2.1]). A high risk was also found for pancreatic cancer (OR = 1.7 [95% CI = 0.9, 3.5]) and the non-Hodgkin's lymphomas (OR = 1.5 [95% CI = 0.8, 2.6]) in a subexposure zone approximately downwind from the site. We used distance from the site as another exposure metric, and higher-than-expected risks were found for pancreatic cancer (OR for living within 1.25 km of the site [OR<1.25km] = 2.2 [95% CI = 1.0, 4.6]); liver cancer (OR<1.5km = 2.1 [95% CI = 0.8, 5.3]); kidney cancer (OR<2 km = 1.4 [95% CI = 0.9, 2.3]); and the non-Hodgkin's lymphomas (OR<1km = 2.0 [95% CI = 1.0, 4.0]). Data from this study and from a previous investigation at the same site suggest that men who lived near this landfill site may have been-and may continue to be-at excess risk of cancers of the liver, kidney, pancreas, and non-Hodgkin's lymphomas.

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Studio Canadese che correla l'inquinamento dell'aria alla mortalità negli uomini (Ref. 29)

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A meta-analysis of mortality data in Italian contaminated sites with industrial waste landfills or illegal dumps

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RESULTS

The Pearson coefficient showed a strong correlation between SMRs and DI-SMRs for all-cause mortality (Pearson coefficient: $R^2 = 0.87$) (*i.e.*, 87% of the variance of the DI-SMRs was explained by variation in the unadjusted SMRs) (*Figure 2*). In light of this finding, that shows a good overlap between the two estimators, we present the results of the meta-analysis of the DI-SMRs.

The pooled SMRs in the 24 sites combined are shown in *Table 1*. Significant increases were found in mortality for liver cancer, bladder cancer and liver cirrhosis, in both genders. Kidney cancer mortality was increased only among women.

In Class 1 sites (controlled industrial waste landfills), the mortality for kidney cancer among women was increased (*Table 1*). In Class 2 sites (illegal dumping sites), there were increases in mortality for liver cancer, liver cirrhosis and bladder cancer in both genders; lung cancer was increased only in men. Mortality for lymphoematopoietic system cancers and for congenital anomalies and adverse conditions originating in the prenatal period did not show increases (*Table 1*).

Most of the observed increases were found in Class 2 sites.

Figures 3-4 show forest plots in Class 2 sites for the causes with significantly increased pooled SMRs. The Q test shows the heterogeneity of the results of individual estimates.

In the analysis of illegal waste dumps CSs that took into account the North-South gradient, the increases observed in the previous analysis were confirmed in both geographical area sites, although in some cases they were not statistically significant. The Southern CSs showed significant increases for liver cancer in both genders and for liver cirrhosis among women; cancer of bladder among both genders and liver cirrhosis in men were not significantly increased. In

"..la mortalità per….tumore del polmone è aumentata solo negli uomini…."

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Cancer mortality in towns in the vicinity of incinerators and installations for the recovery or disposal of hazardous waste

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Cancer mortality in towns in the vicinity of incinerators and installations for the recovery or disposal of hazardous waste

Table 1 shows the RRs and 95% CrIs/CIs for cancers proving to be statistically significant in towns situated at ≤5 km from incinerators and hazardous waste treatment installations, estimated using BYM and Poisson mixed regression models and Moran's I test for spatial autocorrelation. Overall, excess cancer mortality was present in both sexes, with the two models displaying identical RRs, which were higher in men (RR = 1.08) than in women (RR = 1.03). In the case of specific tumors, the estimates yielded by both models were largely similar in general (slightly higher and significant in the mixed model in tumors of the oral cavity and pharynx, esophagus and non-Hodgkin's lymphoma (NHL), and somewhat higher in the BYM model in renal cancer).

"…L'eccesso totale di mortalità per tumori è presente in entrambi i sessi, con I due modelli si nota identica RRs (RISCHI RELATIVI), ma sono più elevati nei maschi (8%) rispetto alle femmine (3%)…"

Cancer mortality in towns in the vicinity of incinerators and installations for the recovery or disposal of hazardous waste

displayed a statistically significant spatial autocorrelation, and it thus seemed appropriate to use the BYM model in order to take this spatial autocorrelation into account. Based on this model, statistically significant RRs appeared for tumors of the stomach, liver, pleura and kidney (in men and women), colon–rectum, lung, bladder, gallbladder and leukemia (in men), and brain and ovary (in women). In these results, note should be taken of the high excess risk for cancer of the pleura (RR = 1.84 in men and RR = 1.52 in women). With respect to leukemias and brain cancer in the under-15- and under-25 age groups, statistically significant excess risks were not in evidence (see Supplementary data, Table 5, which shows the RR of dying from leukemia and brain cancer among the under-15 and under-25 age groups in towns situated at

"…basandoci su questo modello, I rischi relativi (RRs) statisticamente significativi appaiono per i tumori dello stomaco,fegato,pleura, e reni (uomini e donne), colon-retto, polmoni, vescica, cistifellea e leucemia (solo negli UOMINI) e sistema nervoso centrale e ovario (solo nelle donne)…"

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Long-term exposure to urban air pollution and lung cancer mortality: A 12-year cohort study in Northern China.

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Author information

Abstract

Cohort evidence that links long-term exposures to air pollution and mortality comes largely from the United States and European countries. We investigated the relationship between long-term exposures to particulate matter <10μm in diameter (PM_{10}), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2) and mortality of lung cancer in Northern China. A cohort of 39,054 participants were followed during 1998-2009. Annual average concentrations for PM_{10}, NO_2, and SO_2 were determined based on data collected from central monitoring stations. Lung cancer deaths (n=140) were obtained from death certificates, and hazard ratios (HRs) were estimated using Cox proportional hazards models, adjusting for age, gender, BMI, education, marital status, smoking status, passive smoking, occupation, alcohol consumption, etc. Each 10mg/m^3 increase in PM_{10} concentrations was associated with a 3.4%-6.0% increase in lung cancer mortality in the time-varying exposure model and a 4.0%-13.6% increase in the baseline exposure model. In multi-pollutant models, the magnitude of associations was attenuated, most strongly for PM_{10}. The association was different in men and women, also varying across age categories and different smoking status. Substantial differences exist in the risk estimates for participants based on assignment method for air pollution exposure.

KEYWORDS: Air pollution; Cohort study; Lung cancer; Mortality; Particulate matter

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Mortalità diverse tra uomini e donne per inquinamento atmosferico