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Air Quality Index and All-Cause Mortality in Maintenance Dialysis Patients

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**AIR QUALITY INDEX AND ALL-CAUSE MORTALITY IN MAINTENANCE DIALYSIS PATIENTS**

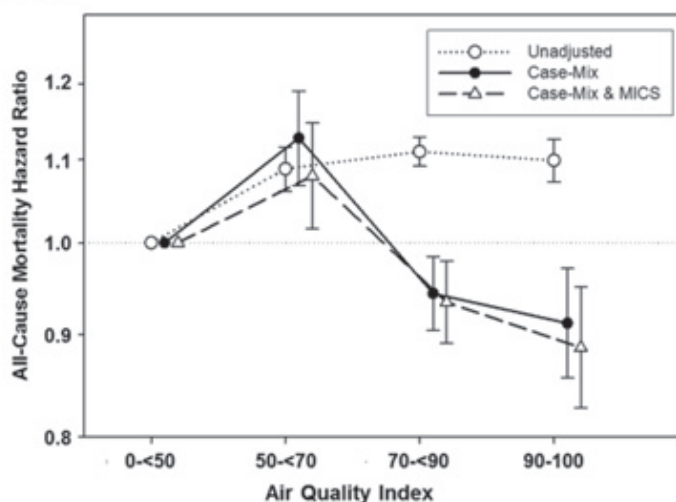
Elani Streja, Bryan Shapiro, Miklos Z Molnar, Jongha Park, Csaba Kovesdy, and Kamyar Kalantar-Zadeh

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Air quality is a concern in the public health, but it has not been examined whether air quality in a residential area may have an association with patient’s outcome or not in dialysis patients.

The Environmental Protection Agency (EPA) reported the air quality index (AQI) based on ground-level ozone, particulate matter, carbon monoxide, sulfur dioxide and nitrogen dioxide. The AQI scale ranges from 0-100, with 100 indicating highest air quality. In 147,555 dialysis patients followed July 2001 to June 2006, we matched patient’s zip code with AQI data and examined an association between AQI and all-cause mortality.

Patients were 61±15 years old and included 45% women and 57% diabetics. Compared to patients living in an area with AQI <50, patients living in areas with AQI 70-<90 and AQI 90-100 reported 7% (HR 0.93, 95%CI 0.89-0.98) and 11% (HR 0.89, 95%CI 0.83-0.95) lower risk of mortality in the case-mix and malnutrition inflammation cachexia syndrome (MICS) adjusted mortality risk.



Maintenance dialysis patients residing in good air-quality regions appear to have better survival, but other socioeconomic states could confound the association. Further studies are warranted.