Self-reported obstructive airway disease in WTC-exposed firefighters compared with non-WTC-exposed firefighters Alexandra Mueller* Alexandra Mueller Ankura Singh Mayris P. Webber Charles B. Hall David J. Prezant Rachel Zeig-Owens

Background

Firefighting has been associated with respiratory conditions, both nationally and internationally. Among firefighters, rescue/recovery work at the World Trade Center (WTC) on 9/11/01 is associated with obstructive airway disease (OAD) including diagnoses of asthma, emphysema/chronic obstructive pulmonary disease (COPD), and bronchitis. The degree to which routine, non-WTC firefighting exposures contribute to the WTC-exposure-OAD relationship is unknown.

Objective

To compare self-reported OAD diagnoses in WTC-exposed firefighters from the Fire Department of the City of New York (FDNY) to those from a cohort of non-WTC-exposed firefighters from other cities.

Methods

10,803 WTC-exposed male FDNY firefighters who receive routine monitoring and 3,129 non-WTC-exposed male firefighters from Chicago, Philadelphia, and San Francisco who were actively employed on 9/11/01 and completed a health questionnaire were included in analyses. Logistic regression estimated ORs of self-reported OAD diagnoses in WTC-exposed to non-WTC-exposed firefighters, adjusting for age, race, and smoking status.

Results

WTC-exposed firefighters were slightly younger on 9/11 on average (Mean±SD=40.0±7.7 vs. 43.6±8.9) and less likely to report ever smoking (32.3% vs. 43.7%) compared to non-WTC-exposed firefighters. All WTC-exposed firefighters (100%) had a recent medical visit through the WTC Health Program; nearly 90% of non-WTC-exposed firefighters had seen a medical professional within the year prior to data collection. Odds of self-reported OAD diagnoses were 3.7 times greater in WTC-exposed compared to non-WTC-exposed. Odds of self-reported asthma were over five times greater in those WTC-exposed (Figure).

Conclusion

Odds of all self-reported OAD diagnoses were greater in WTC-exposed compared to non-WTC-exposed after adjusting for covariates. While asthma and other OAD are known occupational hazards of firefighting, WTC exposure significantly compounded these adverse respiratory health effects.

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