

OCCUPATIONAL EXPOSURES AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE IN A HIGH TUBERCULOSIS PREVALENCE POPULATION

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Background and Aims: Occupational exposures are associated with chronic obstructive pulmonary disease (COPD). These associations have not been investigated against the background of tuberculosis, a risk factor for COPD. This study investigated the relationship between occupational exposures and COPD in a population with a high prevalence of TB.

Methods: Pulmonologist diagnosed cases (n=110) were selected from specialist respiratory clinics at public sector hospitals, and frequency sex and age matched controls (n=102) were selected from other chronic disease clinics at the same institutions. Occupational exposure histories, smoking and other risk factors for COPD were obtained through interviews. Exposure variables included exposure to dusts and chemicals, gases and fumes (CGF). The ALOHA Job Exposure Matrix (JEM) were used to complement the self-reporting variables in the analyses. Odds ratios (OR) were calculated from logistic regression models, adjusting for smoking and past history of tuberculosis. Population attributable risk % (PAR%) was also calculated.

Results: The adjusted OR's for risk of COPD from self-reported high dust exposure-years and high chemical, gases and fume (CGF) exposure-years were 5.9 (95% CI 2.6-13.2) and 3.6 (95% CI: 1.6-7.9) respectively. The adjusted OR's from the JEM derived high cumulative exposure ranged from 1.1 (95% CI 0.6-2.4) to 2.1 (95% CI 1.1-4.2). Among smokers, there was an increased risk for COPD among those exposed to dust (OR=3.1; 95% CI: 0.4-23.9) and CGF (OR=2.3; 95% CI: 0.4-14.4). TB was a risk factor for the development of COPD (OR ranging from 7.7-8.1). The PAR% for COPD from the JEM high cumulative exposure variables ranged from 2.2% for mineral dust to 14.6% for CGF.

Conclusions: Lifetime occupational exposures contribute to the risk of COPD, adjusted for smoking. These risks are present in populations with a high burden of tuberculosis which is generally considered an important causative factor.