

AIR NICOTINE CONCENTRATIONS AND RESPIRATORY AND SENSORY SYMPTOMS AMONG BAR AND RESTAURANT WORKERS IN SANTIAGO, CHILE

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Background and Aim: The current smoking ban legislation in Chile does not protect workers in pubs, bars and restaurants. The aim of this study was to assess the relation between exposure to secondhand smoke, as measured by air nicotine concentrations, with self-reported respiratory and sensory symptoms in workers of these venues.

Method: A total of 206 workers recruited from 59 bars and restaurants (24 smoking allowed, 25 mixed and 10 smoke-free) were recruited between September 2010 and January 2011. An interviewer-administered questionnaire collected demographic and smoking data as well as self-reported information on respiratory and sensory symptoms in the last 4 weeks (irritated eyes, runny nose, sore throat, wheezing, shortness of breath, morning cough, daytime cough, phlegm). In addition to individual symptoms, a composite variable by adding the eight symptoms was generated. Vapor-phase nicotine concentrations were measured over a 1-h sampling period at a time of peak activity. The association of air nicotine with the presence of symptoms was estimated using Poisson regression models.

Results: Workers median age was 30 years. 60.7% were men and 56.8% were waiters. 52.4% were current smokers and the median number of years at work was 1 (interquartile range 0.33 to 4) year. Overall, 86.6% of participants reported having experienced at least one symptom in the past 4 weeks. After adjustment for age, sex, smoking status, home exposure and number of years working in the venue, a change in 1 $\mu\text{g}/\text{m}^3$ in air nicotine concentrations were associated with the prevalence of respiratory or sensory symptoms (Prevalence ratio 1.12; 95% 1.04 – 1.20).

Conclusion: These findings support that exposure to secondhand smoke in bars and restaurants impact sensory symptoms and respiratory health of workers. Laws that ensure smoke-free workplaces in hospitality venues should be implemented promptly in Chile.