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ARTICLES

Smoke-free Air Laws and Secondhand Smoke Exposure Among Nonsmoking Youth

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OBJECTIVES We investigated the association between smoke-free law coverage and cotinine among nonsmoking youth (3–19 years) with and without home secondhand smoke (SHS) exposure.

METHODS We used data from the 1999–2006 National Health and Nutrition Examination Survey, a cross-sectional survey designed to monitor the health and nutritional status of the US population. Serum cotinine levels were available for 11486 nonsmoking youth from 117 survey locations. Each location was categorized into 1 of 3 groups indicating extensive, limited, and no coverage by a smoke-free law. Cotinine was analyzed both as a dichotomous (≥0.05 ng/mL) and as a continuous outcome.

RESULTS Among youth without home SHS exposure, those who were living in a county with extensive coverage of a smoke-free air law had an adjusted 0.61 times (95% confidence interval: 0.48–0.78) the prevalence of detectable cotinine and 0.57 (95% confidence interval: 0.41–0.79) times lower geometric mean compared with youth without a smoke-free air law. Among youth with home SHS exposure, youth with extensive coverage of a smoke-free air law had lower geometric mean cotinine compared with youth who were living in a county without a smoke-free air law, but these differences were no longer observed after adjustment for covariates.

CONCLUSIONS These results suggest that smoke-free laws are an effective strategy for reducing cotinine in youth without home SHS exposure; however, among youth with home SHS exposure, no

benefit was detected.

Key Words: secondhand smoke • tobacco control policy • children and adolescents • National Health and Nutrition Examination Survey

Abbreviations: SHS = secondhand smoke • NHANES = National Health and Nutrition Examination Survey • LOD = limit of detection • CI = confidence interval

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