AMERICAN JOURNAL OF EPIDEMIOLOGY
Vol. 121, No. 5
Printed in U.S.A.

EFFECTS OF PASSIVE SMOKING ON ISCHEMIC HEART DISEASE MORTALITY OF NONSMOKERS

A PROSPECTIVE STUDY[1]

CEDRIC GARLAND, ELIZABETH BARRETT-CONNOR, LUCINA SUAREZ, MICHAEL H. CRIQUI, AND DEBORAH L. WINGARD

Garland, C. (Div. of Epidemiology, Dept. of Community and Family Medicine, U. of California, San Diego, La Jolla, CA 92093), E. Barrett-Connor, L. Suarez, M. H. Criqui, and D. L. Wingard. Effects of passive smoking on ischemic heart disease mortality of nonsmokers: a prospective study. *Am J Epidemiol* 1985;121:645–50.

The mortality attributable to ischemic heart disease as a result of cigarette smoking is greater than that due to lung cancer. Between 1972 and 1974, in a prospective study of a community of older adults in southern California, the authors tested the hypothesis that nonsmoking women exposed to their husband's cigarette smoke would have an elevated risk of fatal ischemic heart disease. Married women aged 50–79 years who had never smoked cigarettes (n = 695) were classified according to the husband's self-reported smoking status at entry into the study: never, former, or current smoker. After 10 years, nonsmoking wives of current or former cigarette smokers had a higher total ($p \leq 0.05$) and age-adjusted ($p \leq 0.10$) death rate from ischemic heart disease than women whose husbands never smoked. After adjustment for differences in risk factors for heart disease, the relative risk for death from ischemic heart disease in nonsmoking women married to current or former cigarette smokers was 14.9 ($p \leq 0.10$). These data are compatible with the hypothesis that passive cigarette smoking carries an excess risk of fatal ischemic heart disease.

ischemic heart disease; longitudinal studies; mortality; smoking, passive

Although cigarette smoke contains hydrocarbons, nicotine, carbon monoxide, and multiple carcinogens (1–4), interferes with pulmonary function (5, 6) and with cardiac function in persons with cardiovascular disease (7), and is a well established risk factor for emphysema (8), lung cancer (9), and cardiovascular disease (10) in smokers, the health effects of passive smoking are a subject of much controversy (1, 11–15).

Nonsmokers in enclosed places with smokers are regularly exposed to smoke (15–17), the concentration of noxious agents in the air exceeds that in inhaled smoke (1), and a significant amount of nicotine is absorbed by exposed nonsmokers (18, 19). Recent studies suggest poorer pulmonary function in nonsmokers exposed to cigarette smoke at work (5), nonsmoking spouses exposed to smoking mates (6), and children exposed to smoking mothers (20–22), and an elevated frequency of respiratory tract symptoms in exposed children (21, 23–25). Epidemiologic studies in

Received for publication August 23, 1984.
[1] From the Division of Epidemiology, Department of Community and Family Medicine, University of California, San Diego, La Jolla, CA 92093. (Reprint requests to Dr. Cedric Garland.)
This work was supported by the Lipid Research Clinics Program, National Institutes of Health Contract No. NIH-NHLBI-HV-1-2160-L; the National Institute of Arthritis, Diabetes, Digestive, and Kidney Disease Research Career Development Award No. 5 K04 AM01083-02 (to Dr. Garland); and the National Heart, Lung, and Blood Institute Research Career Development Award No. 5 K04 HL00946-03 (to Dr. Criqui).