



PLEASE REPLY TO:
Channing Laboratory
180 Longwood Ave.
Boston, Mass. 02115
617-732-2279

Dear Colleague:

Over the past twelve years, the Nurses' Health Study has made a major contribution to the understanding of diseases among women. (See back of letter for a summary of selected recent findings.) This success is in large part due to the loyal participation of over 110,000 women from the population of 121,700 who first provided information in 1976. Unfortunately, we have been unable to update information on your health status. Thus we have modified our questionnaire, shortening it to the minimum. All we ask of you is to give a few minutes to complete and return this short questionnaire thereby contributing to knowledge of factors that influence the health of women.

All information provided will remain strictly confidential and be used for medical statistical purposes only.

I hope you will agree to give a few minutes to complete this questionnaire.

Sincerely,

Frank E. Speizer, M.D.
Principal Investigator

P.S. We really need your help to maintain the validity of this important study!

RESEARCH GROUP:

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A PROSPECTIVE STUDY OF MODERATE ALCOHOL CONSUMPTION AND THE RISK OF CORONARY HEART DISEASE AND STROKE IN WOMEN

New England Journal of Medicine 1988, vol 319; pages 267-73

In 1980, 87,526 female nurses 34 to 59 years of age (the Nurses' Health Study) completed a dietary questionnaire that assessed their consumption of beer, wine, and liquor. By 1984, during 334,382 person-years of follow-up, we documented 200 new cases of severe coronary heart disease. This included 164 non-fatal myocardial infarctions and by using reports from next-of-kin, the postal service, and searching the National Death Index (a file maintained by the National Center for Health Statistics) we confirmed 36 deaths due to coronary heart disease.

In addition, we identified 66 ischemic strokes, and 28 subarachnoid hemorrhages. When we compared women who consumed 5 to 14 grams of alcohol per day (3 to 9 drinks per week) to nondrinkers, we observed that these women had a relative risk of coronary heart disease that was 0.6 that of the nondrinkers. That is equivalent to a 40% reduction in the rate of coronary heart disease. Women drinking more than nine drinks per week also had this decreased rate of coronary disease. With regard to cerebrovascular disease, alcohol intake was associated with a decrease in risk of ischemic stroke but was positively related to risk of subarachnoid hemorrhage. These data from the Nurses' Health Study suggest that among middle-aged women, moderate alcohol consumption decreases the risk of coronary heart disease and ischemic stroke but may increase the risk of subarachnoid hemorrhage.

RELATIVE AND ABSOLUTE EXCESS RISK OF CORONARY HEART DISEASE AMONG WOMEN WHO SMOKE

New England Journal of Medicine 1987; vol 317: pages 1303-9.

We prospectively examined the incidence of coronary heart disease in relation to cigarette smoking in a cohort of 119,404 female nurses who were 30 to 55 years of age in 1976 and were free of diagnosed coronary disease. During six years of follow-up, 65 members of the Nurses' Health Study died of fatal coronary heart disease and 242 had a nonfatal myocardial infarction.

The number of cigarettes smoked per day was positively associated with the risk of fatal coronary heart disease (relative risk = 5.5 for more than 25 cigarettes per day), nonfatal myocardial infarction (relative risk = 5.8), and angina pectoris (relative risk = 2.6). Even smoking 1 to 4 or 5 to 14 cigarettes per day was associated with a twofold to threefold increase in the risk of fatal coronary heart disease or nonfatal infarction. Overall, cigarette smoking accounted for approximately half these events. The attributable (absolute excess) risk of coronary heart disease due to current smoking was highest among women who were already at increased risk because of older age, a parental history of myocardial infarction, a higher relative weight, hypertension, hypercholesterolemia, or diabetes. In contrast, former smokers had little, if any, increase in risk.

These prospective data from the Nurses' Health Study emphasize the importance of cigarette smoking as a determinant of coronary heart disease in women, as well as the markedly increased hazards associated with this habit in combination with other risk factors for this disease.

CIGARETTE SMOKING AND RISK OF STROKE IN MIDDLE-AGE WOMEN

New England Journal of Medicine 1988; vol 318: pages 937-41.

It is known that cigarette smoking is associated with increased risk of both thrombotic and hemorrhagic stroke among men. To test for such an association among women, we examined the incidence of stroke in relation to cigarette smoking in the Nurses' Health Study, a prospective cohort study of 118,539 women 30 to 55 years of age and free from coronary heart disease, stroke, and cancer in 1976. During eight years of follow-up (908,447 person-years), we identified 274 strokes, comprising 71 subarachnoid hemorrhages, 26 intracerebral hemorrhages, 122 thromboembolic strokes, and 55 strokes about which information was insufficient to permit classification.

The number of cigarettes smoked per day was associated positively with the risk of stroke. Compared with the women who had never smoked, those who smoked 1 to 14 cigarettes per day had an age-adjusted relative risk of 2.2 (95 percent confidence interval, 1.5 to 3.3), whereas those who smoked 25 or more cigarettes per day had a relative risk of 3.7 (95 percent confidence interval, 2.7 to 5.1). For women in this latter group, the relative risk of subarachnoid hemorrhage was 9.8 (95 percent confidence interval, 5.3 to 17.9), as compared with those who had never smoked. Adjustment for the effects of relative weight, hypertension, diabetes, history of high cholesterol, hypertension, previous use of oral contraceptives, postmenopausal estrogen therapy, and alcohol intake did not appreciably alter the association between cigarette use and incidence of stroke.

These prospective data support a strong causal relation between cigarette smoking and stroke among young and middle-aged women.

USE OF PERMANENT HAIR DYES AND RISK OF BREAST CANCER

Journal of the National Cancer Institute 1987; volume 79; pages 253-57.

Aromatic amines contained in permanent hair dyes can be absorbed percutaneously and are mutagenic and carcinogenic in some laboratory studies. Concern has been raised that use of these dyes may increase the risk of human cancers. Therefore, the Nurses' Health Study examined the relationship between permanent hair dye use and incidence of breast cancer among 118,404 U.S. women aged 30-55 years who were followed prospectively for 6 years. Among women who had ever used permanent hair dyes, 353 developed breast cancer during 246,848 person-years of follow-up, while 505 cases occurred during 397,460 person-years among never users (age-adjusted rate ratio = 1.1; 95% confidence interval = 0.9-1.2). Identical rate ratios were observed when women who had ever used hair dyes were subdivided into current and past users. Adjustment for known determinants of breast cancer in multivariate models did not alter these relationships. The risk of breast cancer did not increase with more frequent use, longer duration of use, or interval since first use. On the basis of these data and previous findings, it appears unlikely that the use of permanent hair dyes causes any important increase in risk of breast cancer.

NURSES' HEALTH STUDY

HARVARD MEDICAL SCHOOL

1. What is your date of birth? ____/____/____
MONTH DAY YEAR
2. Have your menstrual periods ceased permanently? Yes No
3. Do you currently use female hormones (e.g. Premarin)? Yes No
4. Do you currently smoke cigarettes? Yes No

5. Birth Place (City, State) _____

6. First Name _____ 7. Social Security Number (optional) _____

8. Since June 1976, have you had any of the following physician-diagnosed illnesses?

PLEASE CHECK IF DIAGNOSED	YEAR OF DIAGNOSIS			
	JUNE 76 TO MAY 86	JUNE 86 TO MAY 87	JUNE 87 TO MAY 88	AFTER JUNE 1 1988

1	2	3	4	5	6	7	8	9	10	11	12
0	1	2	3							2	5
0	1	2	3	4	5	6	7	8	9	3	6
0	1	2	3	4	5	6	7	8	9	4	7
0	1	2	3	4	5	6	7	8	9		

0	0	Diabetes Mellitus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	1	Elevated Cholesterol	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	2	High Blood Pressure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	3	Myocardial Infarction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Were you hospitalized for this MI? <input type="checkbox"/> Yes <input type="checkbox"/> No
4	4	Angina Pectoris	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Confirmed by angiogram or stress test? <input type="checkbox"/> Yes <input type="checkbox"/> No
5	5	Coronary Artery Bypass or Coronary Angioplasty	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	6	Stroke	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	7	Fibrocystic or Other Benign Breast Disease	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Confirmed by breast biopsy? <input type="checkbox"/> Yes <input type="checkbox"/> No
8	8	Breast Cancer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9	9	Cancer of the Cervix (include in-situ)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
0	0	Cancer of the Uterus (endometrium)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	1	Cancer of the Ovary	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	2	Colon Polyps (benign)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	3	Cancer of the Colon or Rectum	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	4	Melanoma	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	5	Basal Cell Skin Cancer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	6	Squamous Cell Skin Cancer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7	7	Other Cancer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify other cancer site:
8	8	Fracture of Hip or Forearm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Please specify site and circumstances on a separate sheet.
9	9	Osteoporosis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
0	0	Rheumatoid Arthritis (Physician dx)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1	1	Other Arthritis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	2	Macular Degeneration	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	3	Cholecystectomy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	4	Gastric or Duodenal Ulcer	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5	5	Cataract Extraction	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6	6	Other Major Illness (since June 1976)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Specify other major illness:



- ①
- ②
- ④
- ⑧
- P
- ①
- ②
- ④
- ⑧
- P
- ①
- ②
- ④
- ⑧
- P
- ①
- ②
- ④
- ⑧
- P
- ①
- ②
- ④
- ⑧
- P

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
88 89 90

①
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9

②
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9
0 1 2 3 4 5 6 7 8 9

