**SMOKING CESSATION INTERVENTIONS IN WOMEN WITH CARDIOVASCULAR DISEASE**

The Women's Initiative for Nonsmoking (WINS) study is the largest published study to examine smoking behaviors in women with cardiovascular disease. WINS is a randomized clinical trial with cross-sectional baseline data designed to determine demographic attributes, medical histories, admission diagnoses, comorbidities, smoking histories, psychosocial factors, and health-related quality-of-life factors. Subjects included 277 female inpatients (mean age, 60.7 years; range, 33 to 86 years) in the San Francisco Bay area. Cardiovascular risk factors included cigarette smoking (100%), hypertension (58.8%), family history of cardiovascular disease (56.3%), physical inactivity (49.5%), and lipid abnormality (48.8%). Subjects smoked a median of 20 cigarettes per day for a mean of 39.7 years.

Using a 10-point scale, 71% of women rated their confidence to quit smoking as 5 or greater. The median income was low ($30,000 to $35,000), with 27% of subjects earning less than $15,000 per year. Nearly 57% of subjects were depressed, as measured by the Burnam Depression Screener. In addition, more than 50% had Charlson's Comorbidity Index scores >1.

The severity of cardiovascular disease, degree of addiction, financial resources, and presence of depression should be considered when planning smoking cessation interventions for women with cardiovascular disease.


**INCREASES IN EXERCISE RECOMMENDED FOR WOMEN**

Cardiovascular disease is the leading cause of morbidity and mortality in women in the United States and accounts for more than 50% of all deaths. Compared with men, women have a greater likelihood of recurrent cardiac events after myocardial infarction (MI) and a higher in-hospital mortality rate. African American women with coronary heart disease (CHD) have a 50% greater mortality rate compared with white women who have CHD.

Leading a sedentary life increases the risk for acute MI and death from CHD; the American Heart Association now recognizes physical inactivity as an independent risk factor for CHD. It has been reported that 1 in 4 adults is currently sedentary and an additional one third is insufficiently active to reap health benefits. Physical inactivity among women older than 74 years was found to be highest (1 in 2). African American women (67.7%) were more likely than Hispanic women (61.9%) or white women (56.4%) to lead sedentary lives. Increased income was associated with an increased likelihood of engaging in leisure-time physical activity.

Regular exercise has been shown to reduce the risk of cardiovascular disease by reducing obesity, lowering the incidence of type 2 diabetes mellitus, and improving the distribution of body fat. Exercise has also been shown to confer a protective effect against coronary risk factors by altering platelet aggregation and thrombosis, endothelial function, and autonomic tone. The Centers for Disease Control and Prevention and the American College of Sports Medicine recommend 30 minutes per day of moderate-intensity physical activity on most days—but preferably every day—of the week. Exercise can be accumulated in shorter bouts of activity. American
women should be encouraged to increase their level of physical activity to achieve cardiovascular and other health benefits.


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**Socioeconomic Factors Alone Do Not Explain Differences in Risk of Mortality Among Women**

Several studies have examined the impact of socioeconomic inequalities on morbidity and mortality rates. Few studies, however, have examined the lifetime effects of socioeconomic position, especially in women. This study was conducted to address the association between cross-sectional and longitudinal socioeconomic position, risk factors for cardiovascular disease, and mortality from various causes. Data for the analysis were extracted from workers recruited in Western Scotland between 1970 and 1973.

Respondents completed a questionnaire and underwent a physical examination. Five socioeconomic measures were examined in relation to diastolic blood pressure, plasma cholesterol concentration, forced expiratory volume in 1 second, body mass index, recreational exercise, cigarette smoking, and consumption of alcohol. The socioeconomic measures included father’s social class, current social class, lifetime social class, results of the Carstairs Deprivation Index, and age at leaving full-time education. There were 3 main findings: (1) The association among different measures of socioeconomic position and age-adjusted risk factors for disease in this cohort of women were similar to that of men reported in previous studies; (2) Individual risk factors that were significantly associated with one measure of socioeconomic position for women were not consistently associated with other measures of socioeconomic position, suggesting that studies examining the socioeconomic position of women and risk factors for disease might be highly dependent on the measure selected; (3) Lifetime socioeconomic experience was a stronger predictor of all-cause mortality and mortality from cardiovascular disease than other measures of socioeconomic position.


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**Perceptions on the Effects of Behavioral Changes and HRT on Future Health Risks**

Causes of morbidity and mortality for older women include cardiovascular disease, cancer, and osteoporosis. This study was conducted to determine the perceptions middle-aged women had regarding their risk for contracting these 3 conditions in the future and the extent to which they thought their risk could be modified by behavioral changes (eg, dietary changes, physical exercise, or smoking cessation) or hormone replacement therapy (HRT) for a 5-year period.

A total of 103 fairly healthy women, ages 49 to 55 years, in a general practice in North London responded to the survey. Twenty-one percent (21%) of the women smoked and 2% drank more than the recommended limit of alcohol. The majority of women (68%) were peri- or postmenopausal. Only 17% were using HRT. Health was rated very good/good by 73% of responders; 17% reported having a current illness. Subjects perceived their future risk for cardiovascular disease to be 33% and assumed improved health behaviors would reduce their risk by 10%. They estimated their risk for osteoporosis as 30%, which they believed could be reduced 8% by improving health behaviors. They viewed their risk of breast cancer as 31%, but did not believe that improved health behaviors would alter their risk significantly. Use of HRT was estimated to reduce their risk for osteoporosis by 10%, increase their risk for breast cancer by 8%, and to not alter their risk for cardiovascular disease. Expectations of the group regarding the effects of lifestyle changes on their health were modest. Reductions in cardiovascular risks with HRT were not anticipated.


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**Compliance in Risk Factor Reduction in Men and Women**

This study examined the differences between men and women in their ability to comply with risk factor reduction before and after coronary artery bypass
graft (CABG) surgery. The study also measured the degree of change in compliance behaviors before and after surgery. Risk factors identified by the American Heart Association (AHA) include smoking, hypertension, increased serum cholesterol levels, and being overweight. A convenience sample of 30 men and 30 women, ranging in age from 40 to 83 years, who had undergone nonemergency CABG surgery at least 1 year earlier were involved in a follow-up program of data retrieval through the cardiac surgeon's office. Information regarding compliance was gathered during patient/nurse interviews. The compliance tool used was the RISKO Heart Hazard Appraisal Tool, developed by the AHA. A total of 47 patients (78%) had a positive family history for heart disease; 59 (99%) had a history of heart disease before surgery; 29 (48%) had hypertension; and 6 (10%) had a history of diabetes. Repeat CABG was performed on 7 patients (12%). Preoperative RISKO scores ranged from 2 to 14 (mean, 8.133) in men and 3 to 24 (mean, 11.067) in women. Postoperative RISKO scores ranged from 1 to 12 (mean, 7.367) in men and 0 to 18 (mean, 8.5) in women. Both preoperative and postoperative RISKO scores were significantly lower in men than in women, and the differences between their pre- and postoperative scores were significant (F = 8.77, P <.004). Further, significant differences existed in male and female patient compliance regarding modification of risk factors before and after CABG surgery; however, no significant disparity between men and women was identified in the difference of the RISKO scores before and after CABG.


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**Relationship Between Dietary Macronutrients, Cholesterol, Fiber, and HDL Cholesterol in Women**

This study examined the relationships among macronutrients and plasma triglycerides, high-density lipoprotein (HDL) cholesterol, and the total dietary and risk factor data collected from 695 premenopausal women and 727 postmenopausal women for the Framingham Nutrition Studies. Multiple linear regression analysis was used to determine the association among diet, plasma triglycerides, HDL cholesterol, and the total-to-HDL cholesterol ratio (T/H ratio). Three models were used for each dietary variable: (1) those that included age and diet; (2) those that included age, total kilocalorie consumption, and diet; and (3) those that included age, total kilocalorie consumption, body mass index (BMI), number of cigarettes per day, estrogen use, physical activity (total kilocalories expended annually), glucose intolerance, and diet.

The mean total fat (38% to 39% of calories) and saturated fat (13% of calories) intakes were high and the intake of dietary fiber (10 g/day) was low compared with the recommendations for this population. Premenopausal women consumed significantly more calories, total fat, and saturated fat than did their postmenopausal counterparts, who consumed more carbohydrates. Both groups of women consumed less than one half of an alcoholic drink per day. The mean T/H ratio, plasma triglyceride level, rate of glucose intolerance, and BMI were significantly higher in postmenopausal women than in premenopausal women. Estrogen use was higher among postmenopausal women. Cigarette consumption, distribution of apo E phenotype, and HDL cholesterol level were similar between the 2 groups.

Fiber was related to HDL cholesterol levels in postmenopausal women, but not in premenopausal women. Protein intake was indirectly associated with the T/H ratio in premenopausal women but not in postmenopausal women. Total fat intake was marginally directly related to plasma triglycerides in premenopausal women and not in postmenopausal women. In premenopausal women and all postmenopausal women, with the exception of those with 3/2 or 2/2 apo E phenotype status, alcohol was directly associated with HDL level and inversely associated with the T/H ratio. Carbohydrates were inversely associated with HDL level and directly associated with the T/H ratio in both groups. Dietary fats did not appear to be related to HDL level or the T/H ratio in premenopausal women, but total and saturated fat and oleic acid were directly related to HDL level in postmenopausal women with the 3/2 or 2/2 apo E phenotype. This was not true of women in the 3/4 or 4/4 apo E group, in whom oleic acid was inversely associated with HDL level. The T/H ratio in the 3/2 or 2/2 group was inversely related to total

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**RELATIONSHIP BETWEEN DIETARY MACRONUTRIENTS, CHOLESTEROL, FIBER, AND HDL CHOLESTEROL IN WOMEN**
fat intake. The strongest predictor of HDL cholesterol and the T/H ratio in this group of women was alcohol; however, the effect of alcohol differed across genetic subgroups of women. It is important, therefore, to consider the genetic contribution to the diet/lipid relationship when conducting epidemiologic investigations and evaluating lipid-lowering interventions.
