Weight Concerns and Change in Smoking Behavior over Two Years in a Working Population

Simone A. French, PhD, Robert W. Jeffery, PhD, Lisa M. Klesges, MS, and Jean L. Forster, PhD, MPH

ABSTRACT

The hypothesis that weight concerns are related to less successful smoking cessation and greater relapse among ex-smokers was prospectively evaluated. A population-based sample of 4981 working women and men 17 to 71 years of age was surveyed at 32 work sites. Current and previous weight loss efforts and smoking behavior were self-reported at baseline and 2 years later. Dieting and weight concerns were unrelated to smoking cessation or relapse. However, female smokers who had previously participated in a formal weight control program were three times more likely to quit smoking than those without a history of participation (25% vs 11%; odds ratio = 3.25, 95% confidence interval = 1.86, 5.67). Weight concerns and dieting efforts do not appear to inhibit smoking cessation or increase relapse in adults. (*Am J Public Health.* 1995;85:720–722)

Introduction

Weight concerns have been hypothesized to inhibit smoking cessation efforts and increase relapse from cessation in adult smokers.[1–4] However, only three prospective studies, all involving smokers undergoing treatment for smoking cessation, have been reported.[3,5–6] Two very small studies (n < 50) reported that the belief that smoking cessation will result in weight gain was associated with lower rates of successful cessation.[5–6] Results from the third study, which involved a larger sample size (n = 417) and a more thorough assessment of weight concerns, failed to confirm this earlier finding.[3] Furthermore, one measure of weight concern was found to be positively associated with cessation. The present study was conducted to provide additional prospective data on weight concerns and smoking behavior from the unique perspective of a population-based sample.

Method

Data for the present report were derived from surveys administered at baseline and 2 years later as part of an evaluation of a work-site intervention for smoking and weight loss.[7] Two hundred individuals were randomly selected from each of 32 work sites. Details of the survey methods and completion rates have been reported elsewhere.[7] Complete data for the variables reported here were obtained from 77.8% (4981) of the individuals surveyed at baseline.

Weight concerns were defined in terms of reported history of dieting, desired weight loss, and personal weight preferences relative to actuarial weight standards.[8] Never smokers were those who reported never having smoked more than 100 cigarettes in their lifetime (n = 2675). Current smokers were those who reported daily cigarette consumption at baseline (n = 994). Ex-smokers were those who, at baseline, reported no current daily and no occasional smoking but who had previously smoked more than 100 cigarettes in their lifetime (n = 1312). Current smokers at baseline who reported no occasional and no daily smoking at follow-up (84 women and 60 men) were classified as having quit. Ex-smokers at baseline who reported occasional or daily smoking at follow-up (61 women and 43 men) were classified as having relapsed. Current smokers at baseline also reported the average number of cigarettes smoked per day, whether they planned to quit smoking in the next 12 months, and the number of times they had tried to quit smoking in the previous 3 months.

Dieting and weight concerns were examined as prospective predictors of smoking cessation among current smokers and of relapse among ex-smokers; logistic regression equations, with covariates of treatment assignment (treatment vs control work site), age, body mass index, education, and occupation, were used in these analyses.[9] Number of cigarettes smoked per day at baseline was also included as a covariate in analyses of cessation in smokers. Cross-sectional relationships between weight concerns and plans to quit smoking or recent quit attempts were assessed in current smokers by means of logistic regression; the covariates mentioned above were also used in these analyses. Women and men were analyzed separately, and separate models were run for each weight concern variable. Interaction terms for each of the weight concern variables with body mass index and with age were not statistically significant and are therefore not discussed.

The authors are with the Division of Epidemiology, School of Public Health, University of Minnesota, Minneapolis.

Requests for reprints should be sent to Simone A. French, PhD, Division of Epidemiology, School of Public Health, University of Minnesota, 1300 S Second St, Suite 300, Minneapolis, MN 55454-1015.

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Results

Among women, current smokers were less likely than never smokers to have a history of dieting (69% vs 76%) or to have participated in an organized weight loss program (24% vs 32%), and they were closer to their desired weight (7.9 kg [17.6 lb] vs 8.9 kg [19.7 lb]). Ex-smokers were most likely to be currently dieting (32% vs 22% and 23% in current and never smokers, respectively), to have ever dieted (82%), or to have participated in an organized weight loss program (39%). Similar patterns were observed in men, although absolute levels of dieting were lower.

Table 1 shows unadjusted relationships between the weight concern and smoking behavior variables. Multivariate analyses showed that female smokers with a history of participation in organized weight loss programs were more likely to quit smoking than were those who had never participated in an organized weight loss program (odds ratio = 3.25, 95% confidence interval = 1.86, 5.67; $P < .0001$). No other smoking variables were related to weight concerns or dieting variables in either men or women.

TABLE 1—Weight Concerns and Smoking Behaviors in Baseline Current Smokers and Ex-Smokers

Weight Concern Variable	Current Smokers, %			Relapse in Ex-Smokers, %
	Plans to Quit	1 or More Recent Quit Attempts	Cessation	
Women[a]				
Currently dieting				
Yes	73	30	17	10
No	63	26	13	10
Ever dieted				
Yes	68	28	15	9
No	61	24	10	14
Weight loss program history				
Ever	67	28	25	7
Never	65	26	11	11
Desired weight loss, tertile				
1 (mean = 1.4 kg [3.1 lb])	61	25	15	10
2 (mean = 5.5 kg [12.2 lb])	73	29	17	10
3 (mean = 19.1 kg [42.5 lb])	63	30	17	9
Personal weight preference, tertile				
Heavier (mean = 7.6 kg [16.8 lb])	64	25	18	6
Moderate (mean = 0.8 kg [1.8 lb])	70	32	15	14
Leaner (mean = −3.9 kg [−8.6 lb])	64	28	15	10
Men[b]				
Currently dieting				
Yes	64	29	16	4
No	69	28	16	7
Ever dieted				
Yes	73	29	17	4
No	67	28	15	9
Weight loss program history				
Ever	78	25	25	2
Never	68	28	15	6
Desired weight loss, tertile				
1 (mean = 1.8 kg [4.0 lb])	64	25	18	6
2 (mean = 3.6 kg [8.1 lb])	67	33	15	6
3 (mean = 12.6 kg [27.9 lb])	76	28	14	5
Personal weight preference, tertile				
Heavier (mean = 14.5 kg [32.3 lb])	73	30	12	6
Moderate (mean = 6.2 kg [13.9 lb])	71	26	14	14
Leaner (mean = 0.2 kg [0.5 lb])	63	28	22	10

Note. Desired weight loss = current − desired weight. Personal weight preference = desired − ideal weight. (Ideal weight values were based on 1983 insurance industry standards).
[a]Current smokers, n = 609; ex-smokers, n = 608.
[b]Current smokers, n = 385; ex-smokers, n = 704.

Discussion

This research is the first population-based prospective study to examine relationships between weight concerns and smoking behavior. Results did not support the hypothesis that weight concerns adversely affect smoking behavior. Deviation of current weight from ideal weight or desired weight and current and previous dieting were unrelated prospectively to relapse or cessation in men and women. An exception to these negative findings was a threefold higher cessation rate in women who had previously participated in a formal weight loss program.

Future studies need to measure dieting and general weight concerns, as well as weight concerns specific to smoking cessation, in closer temporal proximity to changes in smoking behavior than was possible in the present study. Dieting behavior or general weight concerns may differ from smoking-specific weight gain concerns in relationship to smoking outcomes. Furthermore, in this working adult population, dieting may reflect a general health consciousness and therefore may be related to other health behaviors such as quitting smoking. The similar but not significant findings for cessation in male smokers with a history of weight loss program participation are consistent with this interpretation. Finally, weight concerns may differ in their effects on smoking at different stages of the quitting process (cessation, relapse, maintenance). For example, dieting may be a healthful response in ex-smokers attempting to control cessation-related weight gain, but it may interfere with the cessation efforts of smokers in the active quitting phase.[10–12] □

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Physician Recommendations for Dietary Change: Their Prevalence and Impact in a Population-Based Sample

Julie R. Hunt, PhD, Alan R. Kristal, DrPh, Emily White, PhD, James C. Lynch, MS, and Elizabeth Fries, PhD

ABSTRACT

A random-digit–dialing survey to examine the prevalence, content, and impact of physician dietary recommendations in a representative population-based sample of Washington State residents was administered to 1972 persons aged 18 years and older. Twenty percent of those surveyed received a physician's recommendation for dietary change in the previous year. The most common recommendations were to decrease intake of cholesterol, calories, and red meat and to increase intake of vegetables and fiber. Respondents receiving recommendations were more likely to report decreased use of high-fat foods and increased use of high-fiber foods and to be in the maintenance stage of dietary change. Results suggest that physicians can play a limited role in promoting dietary change. (*Am J Public Health.* 1995;85:722–726)

Introduction

High intake of dietary fat and low intake of fruits and vegetables are associated with elevated risks of many chronic diseases, in particular, obesity, cardiovascular diseases, and some cancers.[1] Many organizations have recommended that primary care physicians include nutrition counseling as part of routine preventive care[2,3] and have provided guidelines for nutrition counseling for treating hypercholesterolemia.[4] However, little is known about the impact of these recommendations on the usual practice patterns of physicians related to dietary counseling.

Surveys of physicians[5–9] and of the public[10] on physician practice patterns find that most physicians do not routinely engage their patients in nutrition counseling.[5,6,9] The literature on barriers to physician-delivered counseling suggests that physicians' lack of nutrition knowledge and counseling skills,[5–7] lack of reimbursement for time spent delivering nutrition counseling,[7,8] and expectations of patient noncompliance are the most important deterrents.[9] Randomized trials of physician-delivered nutrition interventions, where the outcomes are changes in patient dietary habits, suggest that physician counseling can lead to small improvements in dietary habits.[11,12] We know of no population-based surveys on the prevalence and content of physician counseling for dietary change.

The purpose of this study is to report, in a representative sample of Washington State residents, (1) the prevalence of physician recommendations for dietary change, (2) demographic and health-related factors related to receiving recommendations, (3) specific recommendations recalled by respondents, and (4) whether receiving recommendations for change was associated with dietary habits.

Methods

Study participants were randomly selected adults 18 years of age and older residing in Washington State. Data were collected as part of an ongoing random-digit–dialing survey to monitor changes in behavior and attitudes related to cancer risk and prevention, with emphases on screening, diet, and smoking. Details of sample selection, response rates, and statistical methods have been published.[13]

The authors are with the Cancer Prevention Research Program, Fred Hutchinson Cancer Research Center, Seattle, Wash. Alan R. Kristal and Emily White are also with the Department of Epidemiology, and James C. Lynch is also with the Department of Biostatistics, University of Washington, Seattle.

Requests for reprints should be sent to Julie R. Hunt, PhD, Fred Hutchinson Cancer Research Center, 1124 Columbia St, MP 1002, Seattle, WA 98104.

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