

Gender Differences in Cigarette Smoking and Quitting in a Cohort of Young Adults

ABSTRACT

Background. Smoking among young women is associated with a variety of negative health outcomes. Gender specific influences on smoking, quitting and attempting to quit are hypothesized to occur and may have implications for cessation programs.

Methods. Telephone surveys were conducted in a large ($n = 6,711$) cohort of young men and women (average age 19.2 years) which was first established in 1979 and has been resurveyed several times since then. Questions concerned smoking, successful and unsuccessful attempts to quit, withdrawal symptoms during quit attempts, and concerns about quitting.

Results. More women than men reported current smoking (26.5 vs 22.6 percent), but quitting attempts, successful and unsuccessful, were equally common. Withdrawal symptoms were reported equally, except for wanting to eat more than usual and weight gain, both of which were reported more often by women than men. Women smokers reported substantially more concern about weight gain if they quit smoking (57.9 vs 26.3 percent expressing concern).

Conclusions. Targeted programs are needed to address issues of concern to young women smokers, particularly fear of gaining weight. (*Am J Public Health* 1991;81:324-327)

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Introduction

The prevalence of smoking and the burden of smoking-related illness in this country are beginning to shift toward women. Among men, cross-sectional surveys on smoking status have presented a picture of steadily declining smoking rates from the 1960s to the present, coupled with a steady increase in the number of ex-smokers.¹⁻³ Among women, the percentage decline in smoking prevalence has been smaller.^{3,4} Smoking prevalence rates in the youngest groups of adult women are beginning to exceed those in men, at least among whites,^{1,5,6} and overall smoking rates among women are projected to exceed those among men by the latter part of the 1990s.⁷

Smoking in young women is particularly troubling because it not only poses hazards to their own long-term health,⁸ but has immediate impacts on reproductive function^{9,10} and the health of their children.^{11,12} With a large population of young women continuing to take up smoking, there is a clear need to learn more about ways to help them quit smoking, as well as barriers to their quitting. This paper is an exploration of smoking, quitting, and attempted quitting behavior in a population of young adults, with particular attention to the experiences of young women.

Methods

The young adults in our study originally comprised the entire seventh-grade enrollment of four suburban districts in the Minneapolis-St. Paul, Minnesota, metropolitan area in two subsequent years, 1979 and 1980. They took part in two adolescent smoking studies, which have been described elsewhere.¹³⁻¹⁵

Briefly, as seventh-graders, these students were exposed to variations of a "social influences" smoking prevention curriculum; long-term follow-up demonstrated modest differences in smoking prevalence among students in the various conditions through about eleventh grade,¹⁴ but no differences after that time.¹⁵

The cohort of participating students was reconstructed in 1984-85 and resurveyed annually through 1988.^{16,17} The data reported here are from the 1986-87 follow-up survey, at which time the participants were one or two years out of high school. The response rate for this survey was 94.6 percent, representing 6,711 of a total possible 7,096 interviews. An additional 28 members of the initial cohort were deceased or severely disabled and thus unavailable for interview.

Participants were randomly assigned to one of 11 months (excluding December) for annual follow-up and interviewed by telephone between October 1986 and November 1987. Data collected during the interview included items on current and former smoking status, quit attempts, withdrawal symptoms, perceived barriers to quitting, perceived pressures to quit, current weight and concern about weight. The smoking status variables reported here were based on self-report. In a separate analysis, a sample of individuals provided saliva samples for validation of smoking status;¹⁸ results indicated that telephone self-report data are largely accurate in this population, although recent

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TABLE 1—Smoking and Quitting Behaviors in a Cohort of Young Men and Women with an Average Age of 19.2 Years

Behaviors	Men (95% CI) n = 3455	Women (95% CI) n = 3256
<i>Of total</i>		
% Ever smoked \geq 100 cigarettes in lifetime	32.1 (30.5, 33.7)	37.6 (35.9, 39.3)
% Current smokers	22.6 (21.2, 24.0)	26.5 (25.0, 28.0)
% Ex-smokers	9.6 (8.6, 10.6)	11.2 (10.0, 12.2)
<i>Of Current Smokers</i> (n = 779)		(n = 863)
Number of cigarettes smoked in the last 24 hours	16.2 (13.6, 18.8)	14.3 (12.0, 16.6)
% Tried to quit in past 12 months	62.6 (59.2, 66.0)	66.9 (63.8, 70.0)
% Would like to quit	76.1 (73.1, 79.1)	72.4 (69.4, 75.4)
% Changed brands in past 12 months to reduce tar and nicotine	32.4 (29.1, 35.7)	34.5 (31.3, 37.7)
<i>Of those who have tried to quit in the last 12 months</i> (n = 487)		(n = 575)
Number of quit attempts lasting more than 1 week	1.6 (0.5, 2.7)	1.6 (0.6, 2.6)
Length of longest quit attempt (days)	28.5 (24.5, 32.5)	36.7 (32.8, 40.6)

TABLE 2—Self-Reported Smoking Habits Reflective of Addictive or Dependent Smoking Among Young Adult Current Smokers, by Gender

Smoking Habits	Men (95% CI) n = 779	Women (95% CI) n = 863
% Always inhale	93.6 (91.9, 95.3)	93.4 (91.7, 95.1)
% Smoke more in morning than in rest of day	13.4 (11.0, 15.8)	13.3 (11.0, 15.6)
% Smoke within 30 minutes of getting up	44.2 (40.7, 47.7)	35.6 (32.4, 38.8)
% First cigarette in morning is one would most hate to give up	32.3 (29.0, 35.6)	24.9 (22.0, 27.8)
% Find it hard not to smoke in places where it's forbidden	13.6 (11.2, 16.0)	11.6 (9.5, 13.7)
% Smoke even when ill	16.5 (13.9, 19.1)	12.6 (10.4, 14.8)

quitting may be overreported, a discrepancy unlikely to affect the gender-specific comparisons reported here.

Simple proportions and their 95 percent confidence intervals are reported for categorical variables, and means and their confidence intervals for continuous variables. All analyses were conducted using SAS.¹⁹

Results

The average age of the respondents in this survey was 19.2 years; 51 percent were male. Nearly all of the students were White; 37 percent were enrolled in four-year colleges and 23 percent in vocational schools or two-year colleges. All but 7 percent had graduated from high school.

As shown in Table 1, more women than men were current smokers, and more had ever smoked. The proportion who re-

ported themselves as former smokers, however, was approximately the same in men and women. No gender differences were seen in amount of current smoking or on most of the questions designed to elicit quitting behaviors, although women self-reported slightly longer quit attempts.

The genders differed slightly on items reflecting addictive or dependent smoking²⁰ (Table 2) with more men reporting that they smoked within 30 minutes of getting up and that the first cigarette in the morning was the one they would most hate to give up.

Both current and former smokers were asked about withdrawal symptoms (Table 3), with unsuccessful quitters reporting higher withdrawal symptoms on all symptoms except weight gain. Women were more likely than men to report wanting to eat more than usual, and they also reported more weight gain. The sugges-

tion that weight gain is differentially a problem for women (as compared to men) is not supported by the self-reported weights, however. Among women, the quitters weighed about the same as current smokers (127.2 lbs for each group, on average), while among men, the successful quitters were heavier than current smokers (167.3 vs 162.0 lbs).

Finally, we examined various beliefs about the social and physical aspects of quitting smoking which may act as barriers to quitting, as well as potential social pressures to quit (Table 4). Women were more likely to agree with two of the "barriers" items: "If I quit smoking, I would probably gain a lot of weight" and, "If I quit smoking, it would be hard to go out with friends who smoke." Women were also more likely to agree that they felt social pressure to quit, reporting that, "A doctor has strongly urged me to quit smoking" and, "The people I'm closest to would like me to quit smoking."

Discussion

Contrary to reports in the past that women smokers have had a much harder time quitting smoking than men,^{20,21} these data indicate that both quitting attempts and successful quitting are equally common in both genders for young adults. This may be a positive indication that future smoking patterns will show similar trends for men and women, with higher quit rates among women than are seen in existing cross-sectional surveys of adult women. On the other hand, these data do indicate that more young women than young men are beginning to smoke and are continuing the habit into early adulthood, a time when the risks of smoking to their personal and reproductive health begin to be manifest.

It is interesting that the unsuccessful quitters reported higher levels of withdrawal symptoms on nearly all items, suggesting that elevated levels of withdrawal symptoms may have prevented their successful cessation, although the unsuccessful nature of the attempt may also have led them to overreport symptom severity in order to rationalize failure.

At least one study has found that women who attempt to quit smoking report more severe withdrawal symptoms than do men,²² although others have failed to confirm this finding.^{23,24} In the young adult cohort reported here, among both successful and unsuccessful quitters, women did not generally report more withdrawal symptoms than did men, in

TABLE 3—Percent of Young Adults Reporting Withdrawal Symptoms, by Gender:

Withdrawal Symptoms	Men (95% CI) n = 454	Women (95% CI) n = 538
<i>Current smokers—%*</i>		
Irritability or impatience	54.8 (50.2, 59.4)	56.7 (52.5, 60.9)
Difficulty concentrating	28.2 (24.1, 32.3)	26.4 (22.7, 30.1)
Restlessness	57.7 (53.2, 62.2)	53.9 (49.7, 58.1)
Craving for a cigarette	82.8 (79.3, 86.3)	81.9 (78.6, 85.2)
Wanted to eat more than usual	31.9 (27.6, 36.2)	49.5 (45.3, 53.7)
Fatigue or lack of energy	19.0 (15.4, 22.6)	19.6 (16.2, 23.0)
Wanted to drink more fluids than usual	48.0 (43.4, 52.6)	41.5 (37.3, 45.7)
Weight gain	14.5 (11.3, 17.7)	26.1 (22.4, 29.8)
<i>Former smokers—%†</i>		
	(n = 229)	(n = 224)
Irritability or impatience	40.6 (34.2, 47.0)	33.0 (26.9, 39.2)
Difficulty concentrating	15.7 (11.0, 20.4)	8.9 (5.2, 12.7)
Restlessness	36.7 (30.4, 42.9)	29.9 (23.9, 35.9)
Craving for a cigarette	64.6 (58.4, 70.8)	62.5 (56.2, 68.8)
Wanted to eat more than usual	26.2 (20.5, 31.9)	47.8 (41.2, 54.3)
Fatigue or lack of energy	13.5 (9.1, 18.0)	15.2 (10.5, 19.9)
Wanted to drink more fluids than usual	35.4 (29.2, 41.6)	28.6 (22.6, 34.5)
Weight gain	19.2 (14.1, 24.3)	29.5 (23.5, 35.4)

**Current smokers who have attempted to quit within last 12 months; for most recent attempt lasting more than 24 hours.
†Former smokers, who quit within one year of interview.

TABLE 4—Percent Agreement with Statements Reflecting Barriers and Pressures to Quit Smoking Reported by Young Adult Current Smokers, by Gender

Barriers/Pressures	Men (95% CI) n = 779	Women (95% CI) n = 863
<i>Barriers to Quitting—%</i>		
If I quit smoking, I would probably gain a lot of weight	26.3 (23.2, 29.4)*	57.9 (54.6, 61.2)
If I quit smoking, I would feel tense and irritable	62.1 (58.7, 65.5)	67.7 (64.6, 70.8)
I enjoy smoking too much to quit	50.4 (46.9, 53.9)	50.9 (45.6, 54.2)
If I quit smoking, it would be hard to go out with friends who smoke	32.7 (29.4, 36.0)	46.5 (43.2, 49.8)
If I got tense and irritable from not smoking, it would make the people I'm closest to unhappy	54.7 (51.2, 58.2)	59.2 (55.9, 62.5)
<i>Pressures to Quit—%</i>		
A doctor has strongly urged me to quit smoking	20.2 (17.4, 23.0)	31.5 (28.4, 34.6)
The people I'm closest to would like me to quit smoking	63.5 (60.1, 66.9)	70.6 (67.6, 73.6)

*95% confidence interval.

fact, among the successful quitters, men tended to report more symptoms. Weight concerns, however, emerged in opposition to this general pattern, with both successful and unsuccessful quitters among women reporting eating more and gaining weight during quit attempts. Current women smokers strongly endorsed the notion that they would gain weight if they quit smoking. Interestingly, although women reported more concern about weight, the evidence did not suggest any

large weight gains among the successful quitters in this group, who weighed, on average, exactly as much as their smoking counterparts. Although several published studies indicated that weight gain after quitting smoking was greater in women than men,¹ that finding was not supported in this population. It was clear, however, that concern about gaining weight is much more common in women than in men, and that such concern was excessive in light of the magnitude of the problem. While 57.9

percent of women smokers in our population agreed that they would probably gain a lot of weight if they quit smoking, only 26.2 percent of quit attempters and 29.5 percent of actual quitters reported gaining weight. Even those gains must have been modest or readily controlled, as average weights for quitters were not higher than for current smokers.

One limitation of this study is the nonrepresentative nature of the sample, which consists primarily of White young adults, the majority of whom are pursuing education beyond high school. This is reflected in the self-reported smoking rates, which are lower than those reported from national samples.⁴

The data reported here provide support for the observation that young women are smoking cigarettes in greater numbers than young men, and concern about weight gain emerges as a major issue for these young women smokers. Given the risks to their families as well as to themselves, public health cessation efforts targeted to women continue to be warranted. Targeted programs need to address issues of concern to women, particularly fear of gaining weight. □

Acknowledgments

This research was supported by a grant from the National Cancer Institute (CA 38275; David M. Murray, Principal Investigator). The authors wish to acknowledge the work of Linda Schmid, who did the programming for the study, and Karen Virnig, who organized and supervised the follow-up survey.

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