

ABSTRACT

Using data from a national survey of weight loss practices, this study examined those dieters who were of normal weight. Forty-seven percent of White women, 25% of Black women, and 16% of men currently trying to lose weight had a body mass index under 25. Women's primary motive was health improvement. Among normal-weight female dieters, 12% of Whites and 27% of Blacks were using risky strategies. Dieters were less likely than nondieters to smoke and reported better nutritional practices; however, they were not more likely to exercise, and their maximum weight fluctuation was 50% greater. Additional research on the consequences of dieting among normal-weight individuals is of high priority. (*Am J Public Health*. 1995;85:714-717)

Women Dieters of Normal Weight: Their Motives, Goals, and Risks

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Introduction

Dieting may have significant adverse effects on health and well-being. It has been found to be a risk factor for the development of eating disorders,^{1,2} and although it is not a sufficient determinant for eating problems, causal links between dieting and binge-eating have been proposed.³ Among persons of normal weight, dieting has been linked prospectively with stress,⁴ and research has also suggested that normal-weight dieters may suffer substantial impairment of performance on cognitive tasks.^{5,6} Additionally, because most weight loss efforts tend to fail,^{7,8} episodes of losing and gaining weight may be quite common among dieters and may have negative effects on self-esteem and mood.^{9,10} Although recent reviews have concluded that there is no compelling evidence that weight cycling adversely affects metabolic processes (i.e., that it lowers resting metabolic rate and makes future weight loss more difficult), the association between weight fluctuation and long-term morbidity and mortality is considered worthy of concern.^{11,12}

In addition to the ancillary adverse effects of dieting to lose weight, some weight loss practices in and of themselves constitute health risks. Drugs such as amphetamines, over-the-counter diet pills containing phenylpropanolamine hydrochloride, laxatives, diuretics, and ipecac have all been used by individuals attempting to lose weight. Each has been associated in varying degrees with negative health effects ranging from electrolyte abnormalities to cerebral hemorrhage.^{13,14}

In the context of the negative research on dieting and weight fluctuation, the fact that obesity continues to rise in the United States raises serious questions about the appropriate advice for overweight individuals. Recent authoritative reviews conclude that, to date, evidence on the risk-to-benefit ratio still favors attempts at moderate weight loss for those who are significantly obese. Although little is known about dieting behavior in those who are of normal weight, the current recommendation is

that such individuals should not attempt weight loss.^{11,12}

This message is difficult to transmit in a culture where the norm among women is to be dissatisfied with one's weight.¹⁵ According to one regional study, 64% of women and 23% of men who had never been overweight reported having been on weight loss diets at some time in the past.¹⁶ Recent national studies estimate that the proportion of normal-weight adults on weight loss diets at any one time is from 29% to 38% for women and from 13% to 18% for men, depending on the standards used for normal weight.^{17,18}

The present study focuses on individuals currently trying to lose weight. It has several aims: (1) to determine the proportion of weight loss attempters who are of normal weight and to examine their motivations for dieting; (2) to explore whether weight loss behavior by nonoverweight individuals appears to be health promoting, health destructive, or neutral; and (3) to identify demographic groups that may be at high risk for adverse impacts of dieting.

Methods

Data for this study are from the 1992 Weight Loss Practices Survey sponsored by the US Food and Drug Administration and the National Heart, Lung, and Blood Institute. This was a telephone survey of the noninstitutionalized civilian population, aged 18 and over, who resided in the continental United States in the fall of 1991. Blacks were oversampled. The survey used a multistage random sampling procedure.¹⁹ Designated household respondents were asked the screening question, "Are you right now trying to lose weight?" All of those who answered yes were eligible to be interviewed. In

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TABLE 1—Percentages of Normal Weight and Overweight Individuals among Adults Attempting and Not Attempting Weight Loss

Weight Status	Attempting Weight Loss					Not Attempting Weight Loss		
	Women		Men		Total (n = 1337)	Women ^a (n = 129)	Men ^a (n = 89)	Total (n = 218)
	White ^b (n = 708)	Black (n = 238)	White (n = 309)	Black ^a (n = 82)				
% with normal weight (BMI < 25)	47	25	16	16	34	85	48	67
% overweight (BMI ≥ 25)	53	75	84	84	66	15	52	33

Note. BMI = body mass index.

^aThe sample size is too small for reliable estimates by race among those not attempting weight loss.

^bWhites include 25 people who described themselves Asian or Pacific Islander, American Indian, or some other race.

addition to those trying to lose weight, a small random sample (n = 218) of those who were not trying to lose weight were interviewed as a control group.

The response rate through the weight loss screening question was 72%. Of those designated respondents who said they were trying to lose weight, 95% completed the interview. The total sample consisted of 1431 persons trying to lose weight (1030 women and 401 men) and 218 persons not trying to lose weight (129 women and 89 men). Additional information about the survey and the general results is available elsewhere.²⁰

All respondents answered a core set of questions on weight history; current weight and height; ideal weight; health behaviors such as smoking, exercise patterns, and dietary habits; perceived health status; and demographics. Maximum weight fluctuation was computed as the difference between the highest and lowest adult weight. A score on "healthy nutritional practices" was computed by assigning respondents one point for each of the following dietary practices reported: trying to increase intake of fiber and calcium or trying to decrease intake of saturated fat and cholesterol. The theoretical range on this scale is from 0 (doing none of those things) to 4 (doing all of them).

In addition to the core questions, weight loss attempters were queried in detail about their weight loss practices, goals, and motivations. To investigate characteristics of individuals who use unsafe weight loss practices, two types of dieters were identified: those using accepted practices and those using risky practices. Respondents were categorized as engaging in risky practices if they reported using any of the following techniques to lose weight: fasting for 24 hours or more; vomiting after eating; or taking

laxatives, diuretics, or diet pills. The most widely accepted weight loss regimens are those that combine reduced calorie intake with increased physical activity.²¹ Respondents were categorized as engaging in accepted practices if they reported that they combined dieting and exercise and did not engage in any of the five risky strategies or use products or practices of unknown or questionable value (i.e., protein or fiber supplements, hormone products, surgery, or devices such as body wraps).

"Normal weight" was defined as a body mass index (weight in kilograms divided by height in meters squared [kg/m²]) of less than 25 to avoid including people who were actually overweight. Although no single indicator can represent potential risk to an individual of excess weight, most would agree that this is a conservative definition; a cutoff of 26 through 27.8 is common.^{22,23}

The General Linear Models program of the Statistical Analysis System²⁴ was used for data analysis. Differences that have less than a .05 probability of occurring by chance are reported as statistically significant; differences that could occur by chance with a probability of .06 to .10 are reported as suggestive. All reported means and percentages are weighted to the 1990 census distribution on sex, age, race, and education; reported frequencies are unweighted.

Results

Prevalence of Normal-Weight Individuals Among Dieters

Table 1 displays the prevalence of normal body weight among current diet-

ers and nondieters.* Among dieters, normal-weight individuals were much more prevalent among women (45%) than among men (16%) and were nearly twice as likely to be found among White women (47%) as among Black women (25%) although among men the proportion was the same for Blacks and Whites (16%). By contrast, among those not currently trying to lose weight, most of the women (85%) were of normal weight while more than half of the men (52%) had a body mass index over 25. Clearly, dieting by normal-weight individuals is primarily a female phenomenon. For this reason, the remainder of the analyses included data from women respondents only.

Comparisons of Normal-Weight Female Dieters and Nondieters

Table 2 presents the demographic characteristics of normal-weight women, comparing dieters with those not currently trying to lose weight. The dieters were significantly younger than their nondieting counterparts. Adjusting for age, the analyses also suggest that the dieters tended to be somewhat better educated and somewhat more likely to be employed.

Health and Health Behaviors of Dieters and Nondieters

The age-adjusted body mass index of the dieters was slightly but significantly higher than that of the nondieters (22.59

*The term "dieters" is used instead of "weight loss attempters" for brevity and because 87% of the women and 81% of men said that they were "eating differently from the way they usually eat for the sake of losing weight." A small proportion were exercising only or using other strategies or products.

TABLE 2—Characteristics of Normal-Weight Women, by Dieting Status

	Dieters (n = 408)	Nondieters (n = 105)	P
Demographic characteristics			
Mean age, y	38	47	<.001
Black, %	6	6	.794
Postsecondary education, %	57	48	.105
Employed full time, %	59	49	.066
Married/living as married, %	59	52	.178
Health and health behaviors			
In "excellent" or "very good" health, ^{a,b} %	64	55	.096
With one or more chronic conditions, ^{a,b} %	30	27	.541
Current smokers, ^{a,b} %	25	34	.051
Quit rate ^{a,b}	49	35	.092
Mean number of good nutritional practices (out of 4) ^{a,b}	3.07	2.28	<.001
Engaging in regular exercise, ^{a,b} %	38	43	.370
Mean BMI ^a	22.59	21.15	<.001
Mean ideal BMI ^a	21.04	20.83	.181
Mean BMI fluctuation ^a	5.6	3.7	<.001

Note. BMI = body mass index.

^aAge-adjusted.

^bEducation-adjusted.

vs 21.15). For a woman of average height (5'5"), this corresponds to a weight of 136 pounds for the dieters vs 127 pounds for the nondieters. Adjusting for differences in age and education, the analyses suggest that the dieters perceived themselves to be somewhat healthier than did the nondieters. They were significantly less likely to be current smokers, and among those who had ever smoked, the analyses suggest that the dieters were somewhat more likely to have successfully quit. They also reported engaging in significantly more healthy nutritional practices than did the nondieters. However, despite these generally favorable health practices, the dieters were not more likely to engage in regular exercise, and they did not differ from the nondieters in their reports of having one or more chronic conditions (high blood pressure, diabetes, heart disease, kidney disease, arthritis, and osteoporosis).

Potential for Adverse Effects

Normal-weight women currently trying to lose weight reported having experienced a significantly greater weight fluctuation since age 18. The gap between their highest and lowest reported weight was 5.6 body mass index units vs 3.7 units for those not trying to lose weight. This corresponds to a fluctuation of 34 pounds vs 22 pounds in a woman who is 5'5".

Slightly more than 13% of the normal-weight dieters engaged in at least one of the five aforementioned risky strategies for losing weight (fasting for 24 hours or more; vomiting after eating; and taking laxatives, diuretics, or diet pills). Sixty-two percent of the women followed the accepted practice of simply modifying their diet and engaging in physical exercise. The remaining 25% reported using a combination of accepted strategies and those of unknown or questionable value. To identify high-risk groups, the demographic characteristics (age, race, education, employment, marital status, and body mass index) of those using either accepted or risky practices were compared; those using unknown or questionable practices were excluded from this analysis. Although differences did not reach the .05 level, analyses suggest that those who engaged in risky practices had somewhat lower education and a somewhat lower body mass index. They were also twice as likely to be Black.

Differences between Black and White Female Dieters

In light of the relatively high prevalence of Black women among those using risky dieting practices, the demographic and health characteristics of all Black and White normal-weight female dieters were compared. Black women were signifi-

cantly younger than White women and more likely to be single. The only other significant difference was in the prevalence of risky strategies, which was 12% for White women and 27% for Black women ($P < .05$).

Goals and Motivations of Dieters

Almost two thirds of the normal-weight female dieters reported that their primary reason for trying to lose weight was to improve their health or general level of fitness. Thirty-seven percent said that their primary goal was to improve their appearance. Their ideal weight corresponded to a body mass index of approximately 21, which was not different from the ideal of the normal-weight women who were not dieting.

Conclusions

The results of this study indicate that almost half of the White women and one quarter of the Black women who are trying to lose weight at any particular time are not overweight by the usual definition. Although most report using generally accepted weight loss practices, 13%—close to 2 million women in the United States—are using clearly unhealthy strategies such as fasting; vomiting after eating; and taking diet pills, diuretics, and laxatives. The average normal-weight female dieter reports a lifetime weight fluctuation that is 50% greater than that of her nondieting counterpart. Hence, she may be incurring increased risk of coronary disease and premature death as a consequence of her efforts to achieve the slim ideal body mass index of 21.

Although Black women are much less likely to subscribe to the thin ideal so predominant in White female culture,^{25,26} there is increasing concern about the rising prevalence of eating disorders among Black adolescents.²⁷ The present study indicates that those normal-weight Black women who apparently have internalized the slim ideal engage in risky weight loss practices at an alarmingly high rate.

The desire for an unrealistically slim appearance has been promoted widely by the media and the weight loss and fashion industries, and the harm from these images has been publicized by women's health advocates as well as by behavioral scientists.²⁸ It is noteworthy that most normal-weight dieters say their primary motivation is to improve their health and that, as a group, they appear to be heeding the public health messages that they

should stop smoking, reduce fat, and increase fiber in their diet. Public health messages need to clarify that weight loss is not recommended for people of normal weight and that dieting may expose normal-weight individuals to unnecessary health risks.

This study did not permit examination of the psychological consequences of weight loss behavior among normal weight women, consequences that may be the most severe and pervasive of the adverse effects. Yet, it has also been suggested that dieting among normal-weight individuals may be beneficial in that it may prevent obesity. These issues point to the need for research specifically designed to assess the entire spectrum of consequences—physical, emotional and cognitive—of voluntary weight loss among normal-weight people. □

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