

1985 NHIS Findings: Nutrition Knowledge and Baseline Data for the Weight-Loss Objectives

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Synopsis.....

A nutrition objective for the nation is that, by 1990, 50 percent of the overweight population should have adopted weight regimens, balancing diet and physical activity. More than half of the overweight respondents in the 1985 National Health Interview Survey were trying to lose weight, and almost half of this group reported both increasing their physical activity and decreasing their intake of calories. Dietary restriction without

exercise was the next most common weight-loss regimen, suggesting that educational efforts should emphasize the need to increase physical activity as part of appropriate weight-loss regimens. Attempts to lose weight were reported frequently among those of normal and lean weight as well as among those who were overweight, especially among women and the better educated. About one-fifth of already lean young women reported attempting weight loss, an indication that some inappropriate dieting is probably occurring, suggesting the need for caution in public health promotion of weight loss.

Another 1990 objective is that 90 percent of adults should understand that eating fewer calories or increasing activity, or both, is essential to lose weight. More than 70 percent of adults in this survey were able to identify these as the two best ways to reduce weight, with greater proportions of the younger adults and the more highly educated being knowledgeable.

The survey also provided data for an objective that targets some nutrition education and counseling as part of all routine health contacts with health professionals by 1990. Twenty-nine percent of all women and 22 percent of all men reported that eating proper foods was discussed sometimes or often in routine contacts.

IN 1979, THE SURGEON GENERAL'S REPORT "Healthy People" identified improved nutrition as a priority for efforts to achieve better public health over the next decade (1). Nutrition objectives for 1990 were set out in "Promoting Health/Preventing Disease: Health Objectives for the Nation" (2), and plans for the implementation of these objectives were published by the Public Health Service in 1983 (3).

The Health Promotion and Disease Prevention Questionnaire (HPDP) was added to the 1985 National Health Interview Survey (NHIS) to obtain data about the personal health practices and the understanding of appropriate health practices of the general population; these data can establish baselines for monitoring progress toward the health objectives. Several survey questions were related to the nutrition objectives concerning obe-

sity and practices to achieve weight reduction. Details of the survey design and sampling techniques have been described (4).

Obesity, which is present in about a fourth of the U.S. population, is clearly associated with several diseases of public health importance, including hypertension, hypercholesterolemia, adult onset diabetes, and an excess of certain cancers (5). Reduction of the prevalence of obesity in the population has high priority in the health objectives, and this goal is targeted by three separate, but closely related, nutrition objectives:

- By 1990, the prevalence of significant overweight (120 percent of "desired" weight) among the U.S. adult population should be decreased to 10 percent of men and 17 percent of women, without nutritional impairment;

Table 1. Population frequencies (in thousands) by sex, weight status, age, race, education, and income

Demographic characteristics	Women				Men			
	Total	Lean	Normal	Overweight	Total	Lean	Normal	Overweight
Total	90,192	19,585	48,812	21,794	80,779	5,553	56,240	18,986
Age:								
18-29 years	24,755	8,466	13,006	3,281	23,568	2,818	17,347	3,402
30-44 years	26,200	5,963	14,147	6,089	24,890	1,134	17,454	6,300
45-64 years	23,297	2,741	12,916	7,639	21,215	681	13,918	6,614
65 years and older	15,938	2,414	8,741	4,783	11,104	917	7,519	2,667
Race:								
Black	10,333	1,325	5,224	3,783	8,247	665	5,534	2,046
White	77,656	17,414	42,600	17,642	70,582	4,620	49,287	16,674
Education completed:								
1-9 years	13,172	1,699	6,447	5,025	11,803	990	7,246	3,566
10-12 years	46,811	9,564	25,428	11,818	36,118	2,741	24,516	8,860
13-16 years	24,869	6,767	14,023	4,078	24,618	1,452	18,179	4,897
16 years and over	5,071	1,496	2,812	762	7,975	356	6,143	1,474
Family income:								
0-\$10,999	15,622	3,663	9,336	2,622	15,136	1,476	7,934	5,725
\$11,000-\$19,999	15,509	3,333	8,752	3,423	14,908	1,009	9,474	4,425
\$20,000-\$44,999	33,472	7,144	18,255	8,072	32,526	1,793	24,017	6,716
\$45,000 and over	12,291	3,072	6,542	2,676	11,051	642	8,676	1,732

SOURCE: 1985 National Health Interview Survey. NOTE: Weight classified according to Body Mass Index. See definitions in text.

'Data from the National Health and Nutrition Examination Surveys indicate little change in the prevalence of overweight persons since the early 1970s. However, reliable national data about the population's knowledge and use of appropriate weight-loss practices have not been available . . .'

- By 1990, 50 percent of the overweight population should have adopted weight loss regimens, combining an appropriate balance of diet and physical activity; and
- By 1990, 90 percent of adults should understand that to lose weight people must either consume foods that contain fewer calories or increase physical activity—or both.

The objectives recognized that, to reduce the number of overweight persons in the population, appropriate weight-loss and weight-control practices must be adopted by corresponding numbers of the adult population. Increased knowledge of what constitutes appropriate and effective weight-loss practices, particularly about the appropriate balance between dietary restriction and exercise, is

necessary to help mediate such behavioral changes. Data from the National Health and Nutrition Examination Surveys (NHANES) indicate little change in the prevalence of overweight persons in the population since the early 1970s (5). However, reliable national data about the population's knowledge and use of appropriate weight-loss practices have not been available and, therefore, questions about the pertinent behavior and knowledge in this area were included in the HPDP questionnaire to provide initial baseline estimates.

Survey Questions

Respondents were asked whether they were currently trying to lose weight and, if so, whether they were eating fewer calories or increasing their physical activity, or both. Respondents were also asked their opinion of the best ways to lose weight. The respondents' height and weight and self-perceptions of overweight were the subject of additional questions.

A potentially important source of nutrition information, contacts with health professionals, was also explored by a question in the survey. One of the nutrition objectives states, "By 1990, virtually all routine health contacts with health professionals should include some element of nutrition education and nutrition counseling." Little is known of the extent to which such contacts currently provide nutrition information.

Table 2. Percentage of respondents who were trying to lose weight, by sex, weight status, age, race, education, and income

Demographic characteristics	Women				Men			
	Total	Lean	Normal	Overweight	Total	Lean	Normal	Overweight
Total	44	16	47	63	25	2	20	47
Age:								
18-29 years	44	19	54	68	20	3	17	49
30-44 years	50	17	56	67	28	2	23	47
45-64 years	49	14	46	66	30	4	22	50
65 years and older	28	3	23	49	20	1	15	39
Race:								
Black	41	6	35	62	20	2	15	40
White	45	17	49	63	25	3	21	48
Education completed:								
1-9 years	35	6	28	52	18	1	13	34
10-12 years	45	14	47	63	22	2	16	45
13-16 years	47	19	54	73	29	3	24	56
16 years and over	49	22	57	77	36	7	32	64
Family income:								
0-\$10,999	37	14	34	57	18	2	13	43
\$11,000-\$19,999	42	13	44	62	21	1	16	41
\$20,000-\$44,999	48	17	54	68	27	3	21	49
\$45,000 and over	52	24	59	75	35	4	30	59

SOURCE: 1985 National Health Interview Survey. NOTE: Weight classified according to Body Mass Index. See definitions in text.

Results and Discussion

For the purpose of analysis, respondents were divided into three weight groups: overweight, normal, and lean populations, according to the body mass index (BMI) criteria developed by the National Center for Health Statistics (5,6). The criteria used in this study follow. Overweight is defined as BMI ≥ 27.8 for men and BMI ≥ 27.3 for women, where BMI = body weight in kg. \div height in meters squared; the bottom 20 percent of the survey sample (BMI < 20.5) is arbitrarily defined as the lean population. The remaining respondents are considered in the normal weight group.

It should be noted that the BMI used in this study is based on self-reported height and weight. Overweight almost certainly tends to be under-reported by this method, compared to BMI based on measured height and weight. In the 1976-80 NHANES II, in which respondents' height and weight were measured, 26 percent of U.S. adults aged 20 to 75 years were overweight by the criteria just listed (6). In the 1985 survey only 24 percent of adults were classified as overweight. Table 1 shows the estimated population frequencies for the three weight groups by sex, age, race, education, and income.

The data on weight-loss practices are based on three questions about the respondent's current weight-loss regimen: Are you trying to lose

weight? If yes, are you eating less? Are you increasing physical activity? The results indicate that about 59.9 million adult Americans (35 percent) were trying in some way to lose weight.

Table 2 shows the percentage of adults (by sex, age, race, income, education and weight status) who said that they were trying to lose weight. While the data show that the likelihood of weight-loss efforts was highest among the overweight population, there were more normal weight individuals trying to lose weight (34.1 million) than there were overweight individuals trying to lose weight (22.6 million). Women were more likely than men to be trying to lose weight, regardless of their current weight status. Among those overweight, 63 percent of women and 47 percent of men said that they were trying to lose weight.

Differences between sexes in weight-loss attempts were even more pronounced for nonoverweight individuals. Reporting weight-loss efforts were 47 percent of the women and 20 percent of the men in the normal weight group and 16 percent of the women and 2 percent of the men in the lean group. Of the approximately 3 million lean individuals trying to lose weight, 97 percent were women. Overall, 44 percent of women and 25 percent of men reported that they were trying to lose weight.

Prevalence of weight-loss attempts was highest among the 30-44-year-old women (50 percent) and 45-64-year-old men (30 percent), and dropped

Table 3. Percentage of respondents trying to lose weight who were adopting various types of weight-loss regimens, by sex and weight status

Weight-loss regimen	Women				Men			
	Total	Lean	Normal	Overweight	Total	Lean	Normal	Overweight
All types combined	100	100	100	100	100	100	100	100
Dietary restriction and exercise	47	44	49	43	44	52	44	44
Dietary restriction alone	35	27	32	43	32	19	29	35
Exercise alone	9	19	9	5	14	22	17	11
Neither dietary restriction nor exercise....	9	10	9	8	10	7	10	10

SOURCE: 1985 National Health Interview Survey. NOTE: Weight classified according to Body Mass Index. See definitions in text.

Table 4. Percentage of respondents who both exercised and ate fewer calories among those who were trying to lose weight, by weight status and demographic characteristics

Demographic characteristics	Women				Men			
	Total	Lean	Normal	Overweight	Total	Lean	Normal	Overweight
Total	47	44	49	43	44	52	44	44
Age:								
18-29 years	54	47	54	57	47	69	43	55
30-44 years	50	44	51	47	48	46	48	47
45-64 years	43	32	45	41	41	30	42	40
65 years and older	33	39	36	29	35	0	37	33
Race:								
Black	44	31	47	43	41	23	44	38
White	47	45	50	44	44	51	44	45
Education completed:								
1-9 years	35	19	36	34	36	55	33	38
10-12 years	45	47	46	43	41	24	41	42
13-16 years	53	40	56	49	47	53	46	48
16 years and over	57	54	58	56	52	25	51	53
Family income:								
0-\$10,999	43	49	47	39	38	46	43	33
\$11,000-\$19,999	48	47	49	48	42	57	40	45
\$20,000-\$44,999	49	44	51	44	44	20	44	44
\$45,000 and over	50	38	52	49	48	68	48	49

SOURCE: 1985 National Health Interview Survey. NOTE: Weight classified according to Body Mass Index. See definitions in text.

sharply for women and men age 65 and older (28 and 20 percent respectively). Black women and black men showed a smaller proportion of weight-loss attempts than white women and white men (41 and 20 percent compared with 45 and 25 percent). The prevalence of weight-loss attempts increased with greater education or income among both sexes, reaching 52 percent for women and 35 percent for men with incomes equal to or above \$45,000.

Respondents who said they were trying to lose weight were classified according to whether they reported eating less or reported increasing physical activity or both. A respondent's regimen could consist of both weight-loss practices, one or the other, or neither. Health professionals generally

recommend a balance between dietary restriction and increased exercise as the best way to lose weight. Approximately half of those trying to lose weight (47 percent of women, 44 percent of men) said they were combining dietary restriction and exercise (table 3). Of the overweight population, 43 percent of women and 44 percent of men said they were trying some kind of balanced weight-loss regimen. More than 30 percent of those trying to lose weight said they were eating fewer calories only (35 percent of women, 32 percent of men). Nine percent of women's and 14 percent of men's weight-loss regimens involved only exercise, while approximately 10 percent of weight-loss regimens (9 percent of women, 10 percent of men) involved neither practice. Overweight persons were more

Table 5. Respondents correctly identifying the two best weight loss practices, by demographic characteristics and weight status (percentages)

Demographic characteristics	Women				Men			
	Total	Lean	Normal	Overweight	Total	Lean	Normal	Overweight
Total	73	77	75	64	74	72	76	69
Age:								
18-29 years	80	83	80	75	83	79	84	78
30-44 years	79	80	81	75	80	75	82	75
45-64 years	69	74	72	62	66	56	69	62
65 years and older	54	53	58	46	57	53	57	50
Race:								
Black	55	63	58	48	59	64	62	51
White	75	79	77	68	76	74	78	71
Education completed:								
1-9 years	42	43	45	37	48	50	49	47
10-12 years	72	73	73	68	73	74	74	67
13-16 years	86	88	86	81	84	77	85	81
16 years and over	91	92	91	88	88	83	89	87
Family income:								
0-\$10,999	58	65	60	51	63	66	65	56
\$11,000-\$19,999	70	76	72	61	67	68	70	58
\$20,000-\$44,999	80	81	81	76	78	75	80	73
\$45,000 and over	85	87	86	82	84	83	84	82

SOURCE: 1985 National Health Interview Survey. NOTE: Weight classified according to Body Mass Index. See definitions in text.

likely than the nonoverweight to follow calorie restriction only (43 percent of women and 35 percent of men).

Table 4 presents additional data on the group who were following both caloric restriction and exercise (as recommended) by sex, age, race, education, income, and weight status. Educational level, income, and age were clearly associated with the likelihood a person would adopt a balanced weight-loss regimen. Sex and race were not strongly related to the type of regimen adopted, once the man or woman had decided to try to lose weight. Appropriate weight-loss regimens were tried by only a third of those with a ninth grade education but by more than half of women and men with education beyond 4 years of college. A balance of dietary restraint and exercise had been adopted by at least 47 percent of women ages 18-29 and men ages 18-44, but those 65 and older were least likely to follow recommended practices (33 percent of the women and 35 percent of the men).

To examine the extent of the population's knowledge about practices that are most appropriate for weight loss, respondents were asked which of the following are the two best ways to lose weight: don't eat at bedtime, eat fewer calories, take diet pills, increase physical activity, eat no fat, eat grapefruit with each meal, and don't know. The demographic data on the men and

women who correctly identified the two best weight-loss practices (that is, fewer calories and increased activity) are presented in table 5. Neither sex nor weight status was significantly related to possessing appropriate knowledge about weight-loss practices. A smaller proportion of overweight women than the lean and normal weight women knew the appropriate practices. Knowledge of the appropriate practices was clearly more widespread among the younger, more highly educated, wealthier, and white respondents than other respondents. About 80 percent of adults ages 18 through 44 years were able to identify the two best weight-loss practices. Correct identification declined to about 67 percent of respondents between ages 45 and 64, and to about 55 percent of those 65 years and older. Knowledge about appropriate weight-loss practices was most strongly associated with progressively higher educational levels of respondents.

Self-perception of overweight is likely to be an influencing factor in decisions about weight loss, and respondents were asked whether they considered themselves to be overweight, underweight, or just about right. Responses of those who perceived themselves as overweight were analyzed by sex, obesity, age, race, income, and education (table 6). Women were much more likely than men to believe that they were overweight, regardless of whether they were or not. Overweight people generally were aware of their condition, with most

Table 6. Percentage of respondents who perceived themselves as overweight, by sex, obesity, age, race, and education

Demographic characteristics	Women				Men			
	Total	Lean	Normal	Overweight	Total	Lean	Normal	Overweight
Total	46	9	56	91	37	3	27	80
Age:								
18-29 years	46	10	58	92	23	3	17	74
30-44 years	58	11	63	96	42	2	30	83
45-64 years	63	9	58	92	48	6	35	82
65 years and older	45	4	37	82	35	2	25	74
Race:								
Black	52	7	40	84	25	3	14	66
White	54	10	58	92	39	3	28	81
Education completed:								
1-9 years	51	8	40	80	33	5	20	68
10-12 years	56	9	57	94	35	2	24	80
13-16 years	52	10	61	95	39	4	29	85
16 years and over	49	11	57	96	45	4	37	89
Family income:								
0-\$10,999	50	10	45	84	26	4	18	68
\$11,000-\$19,999	56	8	55	93	34	4	22	77
\$20,000-\$44,999	56	8	60	95	39	2	28	82
\$45,000 and over	55	13	64	98	46	4	37	87

SOURCE: 1985 National Health Interview Survey. NOTE: Weight classified according to Body Mass Index. See definitions in text.

'Some inappropriate dieting, perhaps related to the projected image of a desirably thin female in American society, is likely to be occurring because about one-fifth of already lean young women reported attempted weight loss.'

women and more than three-quarters of the men saying that they were. Many of those in the normal weight category also considered themselves to be overweight, especially women. Fifty-six percent of the normal weight women but only 27 percent of the normal weight men perceived themselves as overweight. The younger (18-44 years) lean women were approximately four times more likely to perceive themselves as overweight than lean men in the same age group.

As in other analyses, educational level was a factor that strongly influenced the self-perception of being overweight among both men and women, with incremental increases occurring from the ninth grade through graduate levels in both the overweight and the normal populations.

Overweight white men were more likely than black men to see themselves as overweight, per-

haps reflecting cultural differences. However, differences in perception were slight between overweight black and white women. In the normal weight population, 58 percent of white women viewed themselves as overweight compared with 40 percent of black women, and both were twice as likely as their male counterparts to self-perceive overweight. Some perception of overweight occurred at all educational levels among lean women, and lean white women were more likely than lean black women to view themselves as overweight.

To summarize the findings, the various analyses indicate high public consciousness about body weight, especially among women and the overweight. Attempts to lose weight were common among those of normal as well as those of excess body weight, especially women. Much of the public is knowledgeable about appropriate weight-loss practices, but many who are attempting to lose weight do not combine increased physical activity with lower caloric intake. The young and well-educated populations are the most knowledgeable and weight-conscious, and most frequently report attempted weight loss. Some inappropriate dieting, perhaps related to the projected image of a desirably thin female in American society, is likely to be occurring because about one-fifth of already lean young women reported attempted weight loss. Because many American women are already highly sensitized to body weight—some inappropriately—it appears that a cautionary pub-

lic health approach should be taken in promoting weight loss among the general population.

Progress Toward the 1990 Objectives

The persons surveyed were asked, "When you visit a doctor or other health professional for routine care, is eating proper food discussed?" The responses (often, sometimes, rarely or never, and don't visit for routine care) provided baseline data for one of the 1990 nutrition objectives. Twenty-nine percent of all women and 22 percent of all men reported that proper foods were discussed sometimes or often in such routine contacts (table 7). Similar differences between sexes occurred at all ages and educational levels, in both black and white populations, and in the three different weight groups. Prevalence of such discussions on nutrition did not vary greatly among any of these groups, but the overweight population and blacks were more likely to have discussed eating with a health professional.

Another nutrition objective is for 50 percent of the overweight population to have adopted weight-loss programs combining diet and physical activity by 1990. In this survey, more than half of those who were overweight (as defined in the analysis) are currently trying in some way to lose weight, and almost half of these (one-quarter of the overweight population) reported both increasing exercise and decreasing calories. Dietary restriction without exercise is the next most common weight-loss regimen, particularly among women. Most data suggest that more emphasis should be placed on increasing energy expenditure to lose weight (7,8). It appears that many people are neglecting exercise in attempting weight loss and that efforts to accomplish this objective should focus on the need for increased physical activity as part of appropriate weight-loss regimens.

Another 1990 objective is that 90 percent of adults should understand that eating fewer calories or increasing activity, or both, is essential to lose weight. The public already has substantial knowledge about appropriate weight-loss practices. More than 70 percent of adults were able to identify fewer calories and increased physical activity as the two best ways to reduce weight. This knowledge, however, was best understood among younger adults and the more highly educated. A smaller proportion of overweight adults, who particularly need to understand these principles, was aware of them compared with those of normal or lean weight. Educational programs, it appears, need to

Table 7. Percentage of respondents who sometimes or often discussed eating proper foods when they visited a doctor or other health professional, by demographic characteristics and weight status

Demographic characteristics	Men	Women
All ages	22	29
18-29 years	18	30
30-44 years	21	27
45-64 years	26	29
65 years and older	24	30
Race:		
Black	29	41
White	21	27
Education completed:		
1-9 years	22	31
10-12 years	21	29
13-16	22	28
16 years and over	24	26
Weight status:		
Lean	20	25
Normal	20	26
Overweight	27	39

SOURCE: 1985 National Health Interview Survey.

be focused on the less educated, the older, and the overweight populations.

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