

# Patient Perceptions and Weight Loss of Obese Adults

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*Little is known about the relative importance of self-image, physician attention to obesity, weight-loss program participation, exercise, self-motivation, and nutrition knowledge in the process of weight loss. Fifty-six obese adults who had been patients in a university family practice setting for at least five years between 1980 and 1986 were surveyed by telephone. Questions were designed to determine factors considered important to obese individuals in their weight-loss efforts and to determine factors related to weight loss among obese individuals. Nearly all of the survey participants felt that they had a good knowledge of nutrition and that they applied their knowledge of nutrition to their daily eating. They did not feel that additional knowledge of nutrition would help them control their obesity. Participants reporting physician attention to their obesity and recent weight-loss program experience were more likely to be categorized as weight losers over the five-year interval. Factors felt to be important in their weight loss by most patients who lost weight at some time were exercise and self-motivation.*

Obesity is a major health problem in Western society. In the United States 26 percent of the population between 26 and 75 years of age are at least 20 percent overweight.<sup>1</sup> One criterion for obesity is being at least 20 percent over the mean Metropolitan Life Insurance Company relative weight for height.<sup>2</sup> The Metropolitan tables are based on actuarial studies and are "weights at which people should have the greatest longevity."<sup>3</sup> These so-called desirable weights remain below the average weights of the US population. An examination of 25 major prospective studies on the subject of optimal weight recommendations (including the Metropolitan tables), however, resulted in the conclusion that failure to control for smoking, biologic effects of obesity, and weight loss because of subclinical disease leads to a systematic underestimate of the impact of obesity on premature mortality. The authors concluded that minimum mortality occurs at weights that are even lower than those on the Metropolitan tables.<sup>4</sup>

Obesity has emerged decisively as a significant and independent predictor of coronary heart disease risk in both sexes, particularly in women.<sup>5</sup> Other health problems that

may be caused or aggravated by obesity include hypertension, diabetes, elevated blood cholesterol, cardiovascular disease, pulmonary disease, certain malignancies, and psychological disorders.<sup>6-8</sup> The psychological and social consequences of obesity may be as serious as the medical hazards.<sup>9</sup>

Various treatments for obesity have been studied. In 1979 Wing and Jeffery<sup>10</sup> reviewed the results of 145 studies of outpatient treatments for obesity published between 1966 and 1977 and found that weight losses during a program are usually clinically small, and there is a general lack of follow-up data on the maintenance of weight loss once a person has completed a program or treatment for obesity. The few short-term follow-up studies published indicate that obese patients regain most of the weight they have lost.<sup>11-13</sup> There is a growing consensus that conservative treatments that incorporate ideas from behavioral and more traditional nonbehavioral programs result in reasonable maintenance of the weight losses that occur during treatment.<sup>14</sup>

Although the data for successful weight loss and maintenance in persons entering treatment for obesity are inadequate, there is evidence that self-cure of obesity is possible for some individuals.<sup>15-19</sup> Schachter<sup>16</sup> points out that the weight loss literature consists largely of the results of numerous studies of a single intervention with a population of self-selected subjects who have actively

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sought help. The reputation of obesity for intractability may be exaggerated because people who cure themselves without therapeutic intervention do not become part of the literature. In his study of a non-self-selected population, Schachter found evidence that of those interviewees with a history of obesity who had actively attempted to lose weight, 62.5 percent had succeeded. Acceptance of personal responsibility for all aspects of weight control, negative self-image, a critical medical incident, frequent vigorous exercise, prior experience reaching a weight goal, less eating in response to emotions, and better nutrition are some of the factors cited as important by people who have been successful at losing weight and maintaining a weight loss.<sup>17-19</sup>

The purposes of this study were to determine factors related to weight loss by obese individuals and to identify factors considered important by obese individuals who lost weight.

## METHODS

The medical records of 4,880 active patients at a mid-western university family practice clinic were selected randomly for review from among the total clinic population of 8,456. Nine hundred seventy-one patients were excluded from the study because they were not at least 18 years old in 1981 or they did not have weights recorded at two patient visits during which they were not pregnant or at least 12 weeks postpartum. Twenty percent (801) of the remaining population of 3,909 adults were overweight (greater than 20 percent above the midrange for medium frame individuals) as defined by the 1983 Metropolitan Height and Weight Table.<sup>3</sup> Data abstracted from the chart included height, weight, birthdate, and sex. One-hundred thirty-seven of these patients had weights recorded over a five-year interval beginning in 1980 or 1981. Patients were classified into one of three categories (gained, steady, or lost) based on their weight change over the five-year interval. The 84 people who gained at least 2.3 kg were classified as "gained." The 29 people whose weight stayed within 2.3 kg of their initial weight were classified as "steady." The 24 people who lost at least 2.3 kg over the five-year interval were classified as "lost."

Of the 137 overweight adults for whom weights were recorded over a five-year interval, 78 were selected for an in-depth telephone survey. The subjects for the telephone survey were chosen randomly within each of the gained, steady, and lost categories. To keep the number of patients within each category approximately equal, attempts were made to telephone one half of those in the gained and steady categories and all of those who lost weight. Fifty-six of the targeted 78 were interviewed, for a response rate

of 72 percent. Sixty-two percent of those targeted from the gained and steady categories and 88 percent of those from the lost category responded. Two people reached by telephone refused to participate, and the other nonrespondents either had moved or could not be reached after numerous attempts over the course of several weeks. Comparison of respondents and nonrespondents showed there to be no significant differences in age, sex, initial weight, or weight change over the five-year interval.

Questions were asked regarding respondents' perceptions of their weight, prior participation in organized weight loss programs, amount and type of exercise, knowledge of nutrition, and feelings about self-motivation being an important factor in weight loss. Results for each question were tabulated within each of the gained, steady, and lost categories. Fisher's exact test was performed using the EPISTAT program.<sup>20</sup>

## RESULTS

The results of the telephone survey are displayed in Table 1. In the first column the question asked is described. Responses are presented for all survey participants and by weight change category over the five-year interval.

Fifty of 56 (89 percent) felt they were overweight at the time of the telephone call. All of the 35 people surveyed who gained weight or remained steady felt they were overweight, while only 15 of 21 weight losers (71 percent) felt overweight. Of the six people who felt they were not overweight, three were still greater than 20 percent overweight according to weights recorded in their medical record.

Thirty-three of 56 respondents (59 percent) reported exercising formally, ie, consciously attempting an exercise program. Eleven of 21 people (52 percent) who lost weight reported exercising formally compared with 22 of 35 people (63 percent) who did not lose weight. Thus, people who lost weight were not significantly more likely to report exercising than the people who did not lose weight (Fisher's exact test,  $P = .31$ , not significant). Only 11 of 56 respondents (20 percent) reported having an active job (a job where they felt they got significant exercise).

Almost everyone (53 of 56) reported that they had a good or fairly good knowledge of nutrition and that they applied their knowledge of nutrition to their daily eating (51 of 56). People who lost weight over the five-year interval were equally likely as those who did not lose weight to report that they had a good or fairly good knowledge of nutrition (Fisher's exact test,  $P = .313$ , not significant). Those people who lost weight were less likely to reply that they applied their knowledge of nutrition to their daily eating than those who did not lose weight (Fisher's exact

TABLE 1. OBESE PATIENT RESPONSES VS ACTUAL WEIGHT CHANGE

Question	All Survey Participants (n = 56) No. (%)	Actual Change		
		Gained (n = 26) No. (%)	Steady (n = 9) No. (%)	Lost (n = 21) No. (%)
Felt overweight	50 (89)	26 (100)	9 (100)	15 (71)
Engaged in formal exercise	33 (59)	16 (62)	6 (67)	11 (52)
Had an active job	11 (20)	5 (19)	3 (33)	3 (14)
Felt that they had a good knowledge of nutrition	53 (95)	25 (96)	9 (100)	19 (90)
Applied their knowledge of nutrition to their daily eating	51 (91)	26 (100)	9 (100)	16 (76)
Felt a better working knowledge of nutrition might help them with their obesity	10 (18)	6 (23)	0 (0)	4 (19)
Ever told by a physician that they were overweight	33 (59)	11 (42)	5 (56)	17 (81)
Ever participated in a formal weight loss program	19 (34)	9 (35)	0 (0)	10 (48)
Weight loss program experience during the 5-year study interval	11 (20)	3 (12)	0 (0)	8 (38)

TABLE 2. ACTUAL WEIGHT CHANGE VS PHYSICIAN ATTENTION TO OBESITY

Ever Told by a Physician That They Were Overweight	Lost Weight	Did Not Lose Weight	Total
Yes	17	16	33
No	4	19	23
Total	21	35	56

Odds ratio = 5.05  
Fisher's exact test, P = .009

TABLE 3. ACTUAL WEIGHT CHANGE VS PROGRAM EXPERIENCE IN THE PREVIOUS FIVE YEARS

Participated in Weight Loss Program	Lost Weight	Did Not Lose Weight	Total
Yes	8	3	11
No	11	32	43
Total	19	35	54

Odds ratio = 7.76  
Fisher's Exact test, P = .006

test, P = .005). Only 10 of 56 (18 percent) felt that a better working knowledge of nutrition might help them keep their weight under control.

Thirty-three of 56 respondents (59 percent) reported being told by a physician that they were overweight. Seventeen of 21 patients who lost weight (81 percent) reported being told by a physician that they were overweight, compared with 16 of 35 people (46 percent) who did not lose weight. People who lost weight were significantly more likely than those who did not lose weight to report that a physician had told them they were overweight (Table 2) (odds ratio = 5.05; Fisher's exact test, P = .009).

Nineteen of 56 (34 percent) had participated in an organized weight-loss program at some time in their lives. Nine of 26 weight gainers (35 percent) and 10 of 21 weight losers (48 percent) reported prior participation in an organized weight-loss program. Organized weight-loss pro-

grams tried by respondents included Weight Watchers, Diet Center, Nutri/System, Overeaters Anonymous, and TOPS.

The numbers of participants who lost weight or did not lose weight over the five-year interval are displayed in Table 3 according to whether the patients had participated in an organized weight-loss program during the five-year study interval. Two women who had undergone gastric bypass surgery were excluded, as the bypass surgery would override any effect of a nonsurgical program. Eight of 19 people (42 percent) who lost weight had been in a program, compared with only 3 of 35 (9 percent) who did not lose weight (odds ratio = 7.76; Fisher's exact test, P = .006).

Ever participating in a weight loss program was not associated with weight loss during the five-year interval. Nine of 19 in the lost category (47 percent) had participated in formal weight-loss programs at some time as

TABLE 4. IMPORTANCE OF EXERCISE AND SELF-MOTIVATION FOR THOSE 41 PEOPLE WHO REPORTED LOSING WEIGHT AT SOME TIME

Question	Weight Losers at Some Time (n = 41) No. (%)	Actual Change		
		Gained (n = 17) No. (%)	Steady (n = 3) No. (%)	Lost (n = 21) No. (%)
Felt that exercise helped them lose weight	30 (73)	15 (88)	2 (67)	13 (62)
Felt self-motivation to be very important	36 (88)	13 (76)	2 (67)	21 (100)

compared with 9 of 35 (26 percent) in the nonlosing category (odds ratio = 2.6; Fisher's exact test,  $P = .096$ , not significant). Ten out of 19 who lost weight (53 percent) reported no prior participation in a formal weight-loss program.

Women were more likely than men to participate in a formal weight-loss program. Fifteen of 32 women (47 percent) tried formal weight-loss programs, compared with only 4 of 24 men (17 percent) (odds ratio = 4.41; Fisher's exact test,  $P = .017$ ). Six of the women and none of the men tried more than one weight-loss program. Twelve of 32 women (38 percent) and 9 of 24 men (38 percent) lost weight. Whether a patient was male or female, therefore, had no apparent effect on whether a participant lost weight (Fisher's exact test,  $P = .61$ , not significant).

People were asked whether they felt that exercise had helped them lose weight during periods in their lives when they had lost weight (Table 4). Thirty of 41 respondents (73 percent) who reported losing weight at some time felt that exercise helped them in their weight loss. When asked how important self-motivation was in helping them lose weight, 36 of 41 respondents (88 percent) felt that self-motivation was extremely important in helping them lose weight (Table 4). All of the 21 patients who lost weight over the five-year interval reported self-motivation to be extremely important in their weight loss. Some examples of their attitudes were that self-motivation was "the key," "the whole ball of wax," or "the most important factor" in their weight loss.

## DISCUSSION

Participants reporting physician attention to their obesity and recent weight loss program experience were more likely to be categorized as having lost weight over the five-year interval. Factors felt to be important in their weight loss by most patients who lost weight at some time were exercise and self-motivation. Nearly all of the survey participants felt that they had a good knowledge of nutrition and that they applied this knowledge to their daily eating.

They did not feel that additional knowledge of nutrition would help them with their obesity.

Physician attention to the problem of obesity had a positive effect on respondents. Patients who reported that a physician had told them they were overweight were more likely to lose weight over the five-year interval. Only 59 percent of the survey participants recalled being told they were overweight by a physician. Even though the people who gained weight perceived themselves as being overweight, denial may have played a role in whether they remembered or reported that a physician had told them they were overweight. Family physicians need to emphasize the benefits of weight loss to their overweight patients, to ensure their patients understand that they are above ideal body weight and that they need to lose weight. The stakes for not doing so are high, as pointed out by the recent National Institutes of Health Consensus Development Conference on the Health Implications of Obesity.<sup>2</sup>

A significant percentage of overweight individuals were concerned enough about their weight to go to considerable effort to lose weight, as indicated by the finding that 34 percent of the survey participants reported prior participation in an organized weight loss program. Those people who lost weight over the five-year interval were more likely to report recent organized weight-loss program participation than those people who did not lose weight. Organized weight-loss programs had a positive effect on weight loss, but the more time that had passed between the time a person had been in a program and the time their weight was measured, the less likely they were to have maintained the weight loss, as there was no statistically significant relationship between weight loss and ever having been in a weight-loss program. The ineffectiveness of weight-loss programs and subsequent maintenance of the modest losses that occur is well documented.<sup>10,11,13,18,21-23</sup> More than one half of the people who lost weight were able to do so without the aid of an organized program. Colvin and Olson<sup>17,18</sup> also found that over one half of their subjects successful at weight loss lost weight without the aid of a structured program.

Women were more likely than men to participate in a formal weight-loss program. There could be many reasons for this difference between the sexes in how people tend to go about losing weight. Women may feel that the formal weight-loss programs give them the structure necessary to aid in their weight loss. Perhaps women respond more positively to the peer pressure in a formal weight-loss program. Colvin and Olson<sup>17</sup> found that women tend to lose weight by diet alone, whereas men are more likely to combine diet with exercise.

A family physician engaged in helping someone lose weight should assess whether the patient has tried to lose weight with an organized program and whether that patient succeeded. Positive aspects of the program can be reinforced, and new approaches can be tried so that the deficiencies of the program (for that patient) are not repeated.

The data on levels of exercise between those who do and do not lose weight showed that people who lost weight were not more likely to report that they were exercising more than people who gained weight. These data must be interpreted with caution, since they were self-reported and no attempt was made to measure the energy expended in exercise. The literature is divided on the question of whether obesity is associated with either reduced activity or energy expenditure.<sup>9,24</sup> In the current study, 73 percent of the people who lost weight at some time felt that exercise helped them in their weight loss. Exercise is often suggested for people who want to lose weight and should be encouraged because it may (1) increase energy expenditure, (2) counteract ill effects of obesity, (3) suppress appetite, (4) increase basal metabolism, and (5) minimize loss of lean tissue.<sup>9,14</sup>

Self-motivation was felt to be an extremely important factor in their weight loss by the 21 people who lost weight over the five-year interval. Of the 41 people who lost weight at some time, 88 percent felt self-motivation to be a very important factor in their weight loss. If a person is not committed to the task of losing weight, then it is likely that weight loss efforts and subsequent maintenance of that weight loss will be futile. People who are successful at losing weight and at maintaining that loss assume the responsibility for their need to lose weight.<sup>17</sup> Self-motivation is a key factor that should be addressed in future weight loss research. A family physician is in a key position to assess and impact on a patient's self-motivation because he or she is the one who has continuity with the patient over a long period of time.

Nearly all those surveyed felt that they had a good knowledge of nutrition and that they applied this knowledge to their daily eating. The nutrition knowledge of the survey participants was not assessed, and it is likely that many of these people have an inaccurate view of their knowledge of nutrition.<sup>14</sup> Only 18 percent of those sur-

veyed felt that a better working knowledge of nutrition might help them keep their weight under control. Even though this is a small percentage, if these people were identified and targeted for learning more about nutrition, it is possible that teaching them about nutrition might help them with their weight control.

The data presented here must be interpreted with caution because of the relatively small numbers of people surveyed and the possibility of a recall bias that is due to the retrospective design. A larger prospective study with diverse populations should be conducted to further investigate these findings. Many factors interact to have an effect on a person's weight; among these are genetics, environment, nutrition, and activity level.<sup>24-27</sup> The family physician has the unique opportunity to have an important impact on many aspects of the problem of obesity. These aspects include patient education and prevention, motivation of patients for changes in eating and exercise patterns, and developing effective treatments.<sup>28</sup>

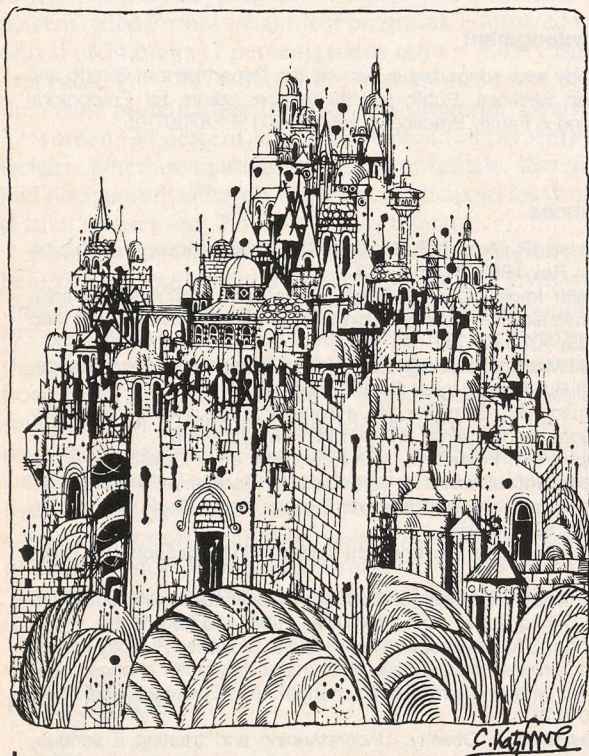
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