

The Effect of a Comprehensive 6-Step Weight Management Program on Obese Patients

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Abstract

Obesity is a multi-factorial disease and its treatment requires more than just advice to diet and exercise. The purpose of this study was to determine the success rate of a comprehensive, evidence-based 6-step program for weight management when applied to an obese sample population.

This retrospective, observational study took place in an outpatient private clinic. The participants included 15 obese patients chosen based on prior enrollment in the 6-step program and having a body mass index (BMI) of 30 or greater. The 6 steps include: medical screening, patient education, diet selection/exercise, cognitive restructuring, behavioral therapy, and a plan for weight maintenance. Patient visits occurred about every three weeks and lasted about 30 minutes. The major outcome measured was weight lost over a minimum 3-month period.

All patients lost weight. Weight loss ranged from 6 to 42 pounds with an average loss of 16.8 pounds ($p < 0.0001$). The percent of weight loss ranged from 1.7 to 14.4 percent with an average loss of 6.5 percent.

The 6-step program for weight management was successful in achieving short-term weight loss goals for high-risk obese patients. However, a long-term, prospective cohort study is needed to further evaluate the program's merit and its efficacy for long-term weight maintenance.

Mean demographics for 6-step weight management participants

	Initial measurement	Ending measurement	Difference	p-value
Weight (lbs)	264.17	243.6	16.8	<0.0001
BMI	41.28	37.87	2.73	<0.0001
LDL	133.5	109.18	22.5	0.0945
HDL	41.75	44.1	2.44	0.5754
Triglycerides	147.58	122.0	30	0.09
ALT	34.69	28.2	8.5	0.0214
AST	31.77	26.3	8	0.2424

Method/Design

We conducted a retrospective, observational study on all patients currently enrolled in the weight management program who had a BMI of 30 or greater. Of the initial 18 patients, three left the clinic for either personal or financial reasons. We followed total weight loss and change in body mass index (BMI) over a 3-month period. Weights were measured consistently on the same triple-beam-balance scale during office visits in order to avoid scale-to-scale variability. Since obesity is strongly correlated to hyperlipidemia and liver disease, we also measured certain metabolic parameters including: low-density lipoprotein (LDL), high-density lipoprotein (HDL), triglycerides, alanine aminotransferase (ALT), and aspartate aminotransferase (AST). Seven of the initial fifteen patients were compliant with pre- and post-laboratory testing and/or had no change in medication that could have affected the measured parameters.

Patients initially underwent a medical screening to ensure no medical or psychological barriers for weight loss were present. Patients were educated about the physiology of weight loss and weight maintenance to improve self-efficacy. A structured diet was individualized for each patient based on prior success/failure with a particular diet and also patient preference of qualitative vs quantitative diet. Most chose a diet based on low glycemic index foods. During office visits, study patients participated in cognitive and behavioral therapy, which focused on goal setting, understanding obesity as a disease with real medical consequences, activity modification, and identifying environmental eating cues. A plan for weight maintenance was employed based on a 5-10% weight loss over 3 months followed by a 3-month weight maintenance cycle.

Background

Obesity is a chronic disease that has reached epidemic proportions in the United States. Sixty seven percent of the U.S. population is either overweight or obese, and the number continues to rise (1). According to the U.S. Surgeon General, these alarming trends in overweight and obesity threaten to overturn many of the improvements achieved in the health of Americans in recent decades (2). Obesity-related co-morbidities include coronary heart disease, diabetes mellitus, sleep apnea, debilitating osteoarthritis, and various forms of cancer (3,4,5).

This study took place in Southwest Florida, at a private outpatient clinic staffed by a 70-physician, hospital-based, primary care group. In order to address the rising threat of obesity in this primary care clinic population, a weight management program was developed based on an evidence-based 6-step methodology for weight management.

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Objective

The purpose of this study was to determine the success rate of a comprehensive, evidence-based 6-step program in achieving short-term weight loss goals in an obese sample population.

Mean Weight in pounds



Results

The mean age of patients was 50 years old (range from 32 to 67). Weight loss ranged from 6 to 42 lbs with an average of 14.4 lbs ($p < 0.0001$). The percent of weight loss ranged from 1.7% to 14.4% with an average loss of 6.3%. The average beginning and ending BMI values were 41 and 38 respectively. Weight loss resulted in a statistically significant decline in ALT values from 34.69 to 28.20 ($p = 0.0214$).

Discussion

The study demonstrated that the 6-step program for weight management employed at our private clinic was successful in achieving short-term weight loss. The study was limited by the short follow-up and also by the small sample size. A longer longitudinal prospective study is needed to further evaluate the program's merit and its efficacy for long-term weight maintenance. We performed a brief follow-up on the current patients studied and, at six months follow-up, found favorable results. The average BMI reduced from 38 at three months to 37 at six months.

The statistically significant reduction in ALT associated with weight loss is consistent with improvement of non-alcoholic fatty liver disease in obese subjects reported in other studies. Although LDL decreased, HDL increased, and triglycerides decreased, these values did not reach statistical significance. This was probably due to poor follow-up in laboratory testing from the patient panel.

