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COMPARISON OF BEHAVIOR MODIFICATION AND A FOOD EXCHANGE SYSTEM AS METHODS OF WEIGHT REDUCTION

by

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INTRODUCTION

The number of obese individuals in the United States has increased to the point that obesity can accurately be considered a national problem, and perhaps, a national obsession (1). Behavior modification offers a relatively new avenue for treatment of obesity (2,3).

Behavioral methods for treating obesity are based on the premise that excessive overeating is an inappropriately learned habit that responds to many stimuli and enviornmental events unrelated to physiological cues of hunger. Behavior modification procedures attempt to change the individual's eating pattern by reducing the number of inappropriate stimuli that are responded to with food intake (4). If these changed habits can be incorporated into the daily routine and life style of the patient the chances of long-term treatment success are greatly increased. Through the process of daily record keeping, weekly analysis, and gradual change in both eating behavior and physical activity, the patient assumes responsibility for his own behavior, which must remain the ultimate goal of the treatment program (5).

In addition to behavior modification techniques, successful weight reduction has been achieved by individuals utilizing the food exchange system. The objective of this system is to provide calorie modifications with the attempt to provide a dietary regimen suitable to the individual's life style (6). Sloan et al. (7) found that a combination of behavioral and diet therapy techniques may be applied to weight reduction with success.

A pilot study was conducted at Kansas State University to determine the efficacy of Behavior Modification and the American Dietetic Association Food Exchange List as methods of weight reduction. Participating in this study were basic nutrition students and individuals from the university community. Those two groups of subjects were selected to determine if nutrition knowledge gained from a basic nutrition course is a critical factor involved in successful weight reduction. To evaluate the influence of formal nutrition education and the success of two approaches to weight reduction, four groups were designated which are as follows:

Group 1: Behavior Modification - Basic Nutrition Students (BM,BN)
Group 2: Behavior Modification - University Community (BM,UC)
Group 3: ADA Food Exchange List Diet - Basic Nutrition Students (ADA,BN)
Group 4: ADA Food Exchange List Diet - University Community (ADA,UC)

The purpose of this study was to determine which of the four groups would have the lowest attrition rate and which of the four groups would achieve the greatest total weight loss.

REVIEW OF LITERATURE

Why traditional treatment fails. Obesity is not a singular phenomenon nor a simple matter of controllable gluttony. It is an addictive behavior disorder, and it is complex and resistant to change. Eating disorders are learned behaviors, practiced and strengthened over a period of years until overeating, in many cases, becomes an autonomic or reflexive act. Furthermore, eating provides immediate positive reinforcement by satisfying taste, relieving hunger pangs and temporarily alleviating anxiety.

For many obese individuals, eating-related activities provide the major source of life's gratification and it is around eating rituals that the obese structure their time. Deprived of these activities, they may experience a "void" or depression. Unfortunately, as the obese individual continues to feel more uncomfortable, he increases his isolation from normal social and physical activities. Thus, he reduces the opportunity to receive gratification or positive reinforcement for behavior antagonistic to eating.

The cycle of withdrawal, inactivity, loneliness, boredom and frustration due to obesity is perpetuated and the obese continue to eat in response to these situations. Routine medical management often fails, since it demands that patients follow dietary modifications amounting to drastic changes in life style. To expect a person to forget long-established, highly gratifying, habitualized responses is unrealistic without teaching him alternative reinforcing responses that are incompatible with eating (8).

Success of behavior modification. Success in behavior modification for weight control generally is measured in weight loss or weight maintenance. Murray (9) found empirical evidence of a tendency for those individuals with the highest initial weight to lose the most weight. Additional factors

such as age of onset of obesity (10), age of the patient (11), and teamwork (12) have been studied to determine the correlation of successful achievement of weight loss with behavior modification techniques.

There is limited information available on behavioral treatment programs for obese adolescents. However, results from a ten-week study by Gross et al. (10) indicate the feasibility of using group behavior modification procedures with young adolescents in need of weight control. In this study, ten adolescents achieved a total weight loss of 73.5 pounds. Four subjects maintained or gained a total of 9.5 pounds. Changing eating patterns and the conditions of eating seemed the major factors in inducing weight losses, and these continued after the program was formally over. Success (as defined by a loss of 15% or more of the original percentage overweight) was more frequent among adolescents with good academic performance. Five of the six subjects who achieved a weight loss received above average grades in school, whereas, average grades were reported by two of the three subjects who gained weight. The four subjects who failed to make significant progress had early onset of their obesity. A weight loss was achieved by four subjects whose obesity began after infancy and by two subjects known to be obese since infancy. Success was always associated with family support, whereas, lack of family support and failure to lose weight were associated in all but one instance. This suggests that parental reinforcement and encouragement are critical to successful weight reduction (13). The factors of good academic performance, age of onset of obesity, and family support can be assessed prior to treatment and may provide an indication of probable treatment success (10).