

# Management of Obesity in Black Females in a Community Model Clinic: A Preliminary Study

Lalita Kaul, PhD, Donna B. Standard, MPH, Mamidanna S. Rao, ScD, and Diosdado E. Ulep, MD  
Washington, DC

During a three-month period, March-May 1978, 23 black females were accepted as patients in the obesity program at the model office of the Department of Community Health and Family Practice, College of Medicine, Howard University.

An aggregate of 55 visits made by these patients was recorded for the same period.

The mean age of the patients was 38.3 years (SD:13.67), and half of the patients were below 40. Nearly 70 percent had a history of obesity in either one or both parents. More than one half had had high blood pressure and 70 percent of the patients had attempted dieting previously. Common snacks taken by the patients were carbohydrate-rich foods.

Based on previous medical and dietary history and behavior patterns related to food intake, the patients were prescribed low-calorie or modified high-protein diets. Each patient at the clinic had a program devised individually for her. A team consisting of a physician, nutritionist, and health educator looked for patterns of behavior causing patients to overeat.

The mean initial weight of all patients was 218 lb at registration and the weight after seven weeks of follow-up was 213.8 lb.

The treatment of obesity remains one of the most difficult problems in clinical medicine. It is associated with increased mortality, hypertension, increased incidence of cardiovascular disease, carbohydrate intolerance leading to diabetes, increased levels of blood lipids and uric acid, gout, gall bladder disease, and other serious disorders.<sup>1,2</sup> During recent public hearings, the US Senate Select Committee on Nutrition and Human Needs cited obesity as the nation's number-one malnutrition problem. It was reported that one third of the US population is obese to a point that limits optimal health and life expectancy.<sup>3</sup>

It has been reported that blacks as a group have a high incidence of obesity,

thus making black women particularly more susceptible to hypertension.<sup>4</sup> It was further reported that prevalence of obesity in both white and black females was associated with lower income.

Since it has been established that the presence of hypertension and other illnesses can be lessened by weight reduction, the Model Office of the Department of Community Health and Family Practice, College of Medicine, Howard University, developed a pilot project with a view to help black obese women reduce their weight. This in essence meant organizing an obesity clinic. Essential components of the treatment included weight reduction diet, adequate dietary counseling, exercise, and behavior modification related to food intake.

## Materials and Methods

The Obesity Clinic was initiated in March 1978. The participants in the clinic resided in Washington, DC, and were generally from lower-income

strata. Because of limited space and staff only two new patients per week were accepted in the clinic. The old patients continued to receive follow-up counseling. During the three-month period, 23 black female patients had been accepted in the program and approximately 55 visits were made by these patients. The team working on this project consisted of a physician, a nutritionist, and a health educator. The questionnaire administered at the time of interview related to the following areas:

- A. Family history related to obesity
- B. History of previous diets
- C. Behavior pattern related to food intake
- D. 24-hour recall of food intake

Medical history was gathered from the patient's record. Based on medical history and behavior pattern, the patients were prescribed either low-calorie or modified high-protein diets. This paper contains preliminary analysis of the data so that more attention is given to the vulnerable group of black obese patients at other medical centers and large hospitals in this country.

## Results

Much information is collected from each patient, and several characteristics of demographic, social, and predisposing factors were analyzed and presented in Table 1. The mean age of the obese females was 38.3 years (SD: 13.67), and half the patients were below 40 years of age. However, since 26 percent were below age 30, attention to the problem of obesity should be given early in life.

The height of nearly half the patients was over 5'4". The mean height was 5'4" (SD: 2'8"). The activity was reported as sedentary by all females in this study.

Only nine percent of females were married and the rest of the patients were either single, divorced, or separated. A New York survey has shown

From the Department of Community Health and Family Practice, College of Medicine, Howard University. Requests for reprints should be addressed to Dr. Lalita Kaul, Department of Community Health and Family Practice, Howard University College of Medicine, Washington, DC 20059.

<b>Table 1. Social, Demographic, and Physiological Characteristics of 23 Obese Black Females</b>				
<b>Study Number</b>	<b>Characteristic</b>	<b>Total</b>	<b>Number 23</b>	<b>Percent 100.0</b>
1	<b>Age</b>			
	<30 Years		6	26.1
	30-39		6	26.1
	40-49		5	21.7
	50 Years and Over		6	26.1
2	<b>Height</b>			
	5.0"-5.3"		12	52.2
	5.4"-5.6"		5	21.7
	5.6" and over		6	26.1
3	<b>Activity</b>			
	Sedentary		23	100.0
4	<b>Marital Status</b>			
	Single		7	30.4
	Married		2	8.7
	Separated		9	39.1
	Divorced		4	17.4
	Widowed		1	4.3
5	<b>Family History of Obesity</b>			
	None		7	30.4
	One Parent		9	39.1
	Both Parents		7	30.4
6	<b>Blood Pressure</b>			
	Low (100/70)		1	4.3
	Normal		10	43.5
	High (130/90)		12	52.2
7	<b>Previous Dieting</b>			
	No		7	30.4
	Yes		16	69.6
8	<b>Favorite Foods</b>			
	Sweets		13	56.5
	Sodas		6	26.1
	Bread		5	21.7
	Fried Foods		4	17.4
	Alcohol		2	8.7
	Potato Chips		1	4.3
Others		18	78.3	
9	<b>Type of Diet</b>			
	High Protein		4	17.4
	Low Calorie		19	82.6

that married persons were more successful than single persons in effecting weight loss.<sup>5</sup>

Nearly 70 percent gave a history of obesity in either one or both parents. This finding is in agreement with that of others that family history is a predisposing genetic factor.

More than one half of the patients had high blood pressure. Nearly 70 percent had attempted dieting previously. The favorite foods were seen to be sweets, sodas, breads, and fried foods. Although quantity of intake is important in obese patients, the authors have presented only the kinds of foods the patients liked before. A low-calorie diet was recommended to 83 percent of the patients.

The mean initial weight of all females was 218 lb as shown in Table 2. The weight after seven weeks of follow-up was 213.8 lb. Thus, the mean loss of weight was 4.2 lb in 7 weeks. However, it was observed that the more obese patients usually do not come to the clinic on a regular basis. The analysis of a ponderal index (height in inches divided by cube root of weight in pounds) and relative weights were not included at this time in this preliminary study. In only seven weeks, 19 out of 23 persons (83 percent) lost weight, one female maintained status quo, and three gained weight.

## Discussion

Millions of Americans are looking for a quick and easy way to lose excess weight.<sup>6</sup> Most overweight people have arrived at that state because of poor eating habits or from an imbalanced food intake and, therefore, they are looking for diets geared to please their regular food intake while allowing them to lose weight.<sup>7</sup> About 70 percent of our patients had tried various fad diets without much success. The reason for the failure of these diets is that they run counter to the basic principles of balance, minimal change, and the teaching of good dietary habits for permanent weight control. Many clinicians are beginning to view obesity as a chronic problem. A physician or a nutritionist who helps a patient lose weight must keep the patient under constant supervision just as in the case of any chronic disease.<sup>8</sup> Anyone who has ever become

Table 2. Progress of Weight in Pounds in 23 Obese Patients		
Category	Mean	SD
Initial	218.0	49.41
Weight after seven weeks	213.8	49.85
Loss in weight	4.2	4.66

seriously obese will always be a prime candidate for gaining back the weight. Even after the attainment of the desirable weight, obesity should be considered to be controlled but never cured.<sup>9</sup>

Epidemiologic, environmental, genetic, and other factors play an important role in the development and continuation of obesity. Social factors are far from trivial in the development of obesity. It has been reported that the level of fatness increases among females as socioeconomic status decreases.<sup>10</sup> Most of the patients came from lower income strata.

Mayer<sup>11</sup> has reported that only ten percent of children with parents of normal weight are obese, 40 to 50 percent of children with one obese parent are obese, and 80 percent of children with two obese parents are overweight. Nearly 70 percent of patients had one or both obese parents.

Body build is genetically determined. The endomorphic or round individual gains weight faster as compared to the ectomorphic or slender person.<sup>12</sup> This does not mean that obesity is inevitable for the endomorph. It only means that this type of individual has to be always careful about gaining weight.

It has been hypothesized that some individuals become obese because they overload their metabolic pathways for carbohydrates and fat so that lipogenesis is favored.<sup>13</sup> These individuals skip breakfast, eat little lunch, and then consume a large dinner. This pattern was observed in many patients. Some grossly obese patients have shown changes in blood lipids suggesting the possibility of increased formation of fatty tissue.<sup>14</sup> It has been hy-

pothesized that fat stores from lean individuals provide an internal "signal(s)" about total calorie storage that fat from obese patients does not produce. In lean subjects, fat stores expand and the signals are produced that diminish the desire for food.<sup>15</sup>

Many people continue to gain weight because they do not adjust their appetites to reduced energy requirements. The many labor-saving devices in homes and outside reduce the energy requirement. Studies have shown that the appetat center in the brain does not function effectively below a certain level of activity.<sup>16</sup> All of the patients studied were sedentary. Most of them spent their time at home watching television.

Maintenance of a stable weight level depends to a large degree upon one's ability to make precise daily adjustments in the level of food consumption. For example, an extra pat of butter, an extra shake of the salad dressing, if added to a diet that otherwise exactly met energy requirements of an individual, would lead in ten years' time to a weight gain of 100 lb. The patients at the clinic favored carbohydrate-rich foods.

The treatment of obesity can be a frustrating problem to the physician, nutritionist, health educator, and the patient. Therefore, it is important that each patient be evaluated in terms of the medical and dietary history and the patient's behavior pattern related to food intake. Each patient at the clinic had a program devised individually for her. The team looked for the patterns of behavior that caused patients to overeat. Patients were asked to keep a detailed record of their food intake and

questions were asked about their eating behavior. This helped patients to evaluate and modify eating behavior. The patients, all of whom were sedentary, were also advised to engage in some kind of physical activity.

On review, it was noticed that the team approach which was adopted in the pilot project has been very encouraging in meeting the clinic's main objective—that of treating obesity and promoting an awareness of the hazards of overweight.

#### Literature Cited

1. Levinson ML: Obesity and health. *Prev Med* 6(1):172-180, 1977
2. Breidahi HD: Carbohydrate tolerance and obesity. *Med J Aust* 1(spec suppl 4):9-10, 1976
3. US Congress: Diet related to killer diseases. Procedures and Debates of the 94th Congress, Second Session, September 1, 1976
4. Highlights from the Ten-State Nutrition Survey. *Nutrition Today*, July/August 1972, pp 4-11
5. James G, Christokis G: New York City's Bureau of Nutrition: Current programs and research activities. *J Am Diet Assoc* 48:301-306, 1966
6. Winick M: How to Diet. New York, Redbook, 1975, pp 78-80
7. Christokis G, Plumb RK: Obesity. Washington, DC, National Foundation Inc, 1966
8. Research on the riddle of obesity gains new scientific weight, medical news. *JAMA* 239:1727-1735, 1978
9. Fineberg SK: The realities of obesity and fad diets. *Nutrition Today*, July/August 1972, pp 23-26
10. Garn SM, Clark DC: Trends in fatness and the origins of obesity. *Pediatrics* 57:443-456, 1976
11. Mayer J: Obesity—causes and treatment. *Am J Nursing* 59:1732-1736, 1959
12. Mayer J: Physical activity and anthropometric measurements of obese adolescents. *Fed Proc* 25:11-121, 1966
13. Leveille GA, Romsos DR: Meal eating and obesity. *Nutrition Today*, November/December 1964, pp 4-9
14. Goldberg M, Gordon ES: Energy metabolism and human obesity. *JAMA* 189:616-623, 1964
15. Sims EA, Danforth E Jr, Horton ES, et al: Endocrine and metabolic effects of experimental obesity in man. *Prog Horm Res* 29:457-496, 1973
16. Mayer J: Overweight—causes, cost and control. Englewood Cliffs, NJ, Prentice-Hall, 1968