

THE DOWNSTART PROGRAM: A HOSPITAL-BASED WEIGHT-LOSS PROGRAM

Obesity is an epidemic affecting children and adolescents at an alarming rate. Between the 1960s and 2000, rates of pediatric obesity have quadrupled in America. African and Caribbean Americans as well as Hispanics are disproportionately affected. Downstate Medical Center's Department of Pediatrics instituted a weight-loss program (the Downstart Program) to provide interventional therapy for this growing problem. We reviewed the literature regarding obesity in children, including reported co-morbidities, and compared other reports to the data obtained from our weight-loss patients.

We also reviewed the charts of three groups of weight-loss patients who completed the 12-week Downstart program and found that many had lost weight, decreased their body mass index (BMI) and increased their fitness capacity. The program appears to be effective although the long-term implications of the Downstart Program on weight-loss require further investigation.

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INTRODUCTION

Obesity has become a significant national issue, as pediatric obesity rates have nearly quadrupled between 1960 and 2000. Although obesity affects all cultures and ethnic groups, it has been reported to affect African Americans and Hispanics at disproportionate rates. Much research has linked co-morbidities of obesity including: asthma, diabetes, coronary heart disease, hypertension, high cholesterol, as well as psychosocial issues such as depression and low self-esteem. These risks are multiplied if an obese child should become an obese adult. Obesity is measured using body mass index (BMI) which is the ratio of weight in kilograms over height in meters squared. Children are considered overweight if their BMI is above the eighty-fifth percentile for their age and obese if their BMI is above the ninety-fifth percentile for their age.

The weight-loss program at Downstate Medical Center aims to treat obesity in children, thereby reducing the number of health risks as they mature. The program helps patients lead a healthier lifestyle, with weight loss as the first step. For New York City elementary public school children (ages 6–11), 31% of Hispanics, 23% of African Americans, 16% of Caucasians, and 14% of Asians were obese. Although there are a number of reasons for this obesity, the most common causes of obesity include a lack of physical activity and poor eating habits. In several city public schools, the physical education budget has been diminished, leaving many children with no means of exercising. The majority of the Downstart Program's weight-loss patients are African- or Caribbean-American, reflecting the demographic population of central Brooklyn, where Downstate Medical Center is located.

METHODS

We began research on this topic by compiling general information about obese children as well as our weight loss patients. In addition, we conducted on-site visits with the Downstart program to understand program components, and learn how the patients are encouraged to exercise and monitor their caloric intake. The exercise component consisted of a basic workout designed to increase flexibility, cardiovascular endurance, strength, balance and coordination. Participants completed exercises while popular music played and a motivating instructor encouraged the participant. The nutrition sessions met once a week during a 12-week period and taught patients and their families about proper nutrition. During these sessions, a dietitian advocates the "spotlight diet," by which foods and beverages are categorized as red, yellow or green. Foods classified as red (high in calories and low in nutritional value) are to be taken rarely, yellow foods (medium amount of calories and mediocre nutritional value) are to be taken with caution, and green foods (low in calories, high in nutritional value) can be ingested frequently. Patients are also taught the major food groups (carbohydrates, lipids and proteins) and the role of each in a healthy diet. Another important component of the program is the psychological intervention. Support group sessions met once a week and encouraged the patient in making lifestyle changes such as: proper eating habits, decreasing sedentary lifestyle, and increasing physical activity. We also examined data on weight, height, body mass index (BMI), and fitness levels, measured at the start and endpoint of the program.

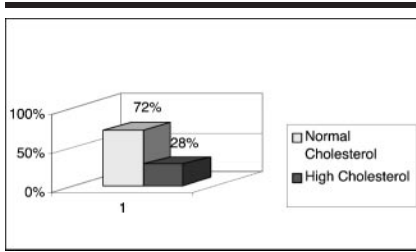


Fig 1. Cholesterol levels of program participants

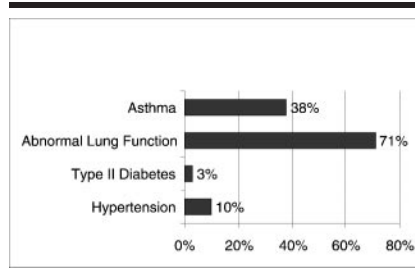


Fig 2. Percentage of patients with weight-related conditions

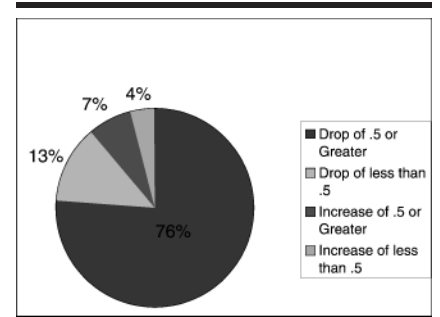


Fig 3. Increases and decreases in BMI levels among program participants

RESULTS

Figures 1–2 illustrate Downstart program's patient cholesterol levels and the percentages of patients suffering from weight-related diseases.

By examining the participants' records, we found that 75% of patients ($N=45$) lost weight after completing the Downstart Program. Of those who lost weight, 62% lost at least one kilogram. Of the 24% who gained weight, 15% gained at least one kilogram. Eighty-nine percent of the patients decreased their BMI, and 76% of these had a minimum decrease of a half point. Eleven percent of the patients' BMI increased by the end of the program, with

7% having increased their BMI by at least half a point. (Figure 3)

In addition to positive weight-loss results, the participants' fitness capacity increased upon their completion of the Downstart program. For example, in a two-minute period, the patients could, on average, do 28 more steps than when they began the program. Patients were also able to execute, on average, 10 more push ups, 5 more squats, and reach one and half more inches while sitting than before they entered the program.

CONCLUSION

The Downstart Program improves the fitness and BMI of many of the chil-

dren who completed the program. As the program matures, there is a significant improvement in patient compliance; however, there is a need to increase compliance with the program to higher levels, because at least 20% of the patients did not complete the program. The data gathered reflects a 12-week intervention. Further studies are needed to assess the long-term affect of this program on lifestyle changes.

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