Intervention Decreases Adolescents' Obesity

By Ruth Kava — May 25, 2016

The first NHANES (National Health and Nutrition Examination Survey) covering 1976 through 1980 found that six percent of adolescents (ages 12-19) were obese. By NHANES 2009-2010 that prevalence had more than tripled — to over 18 percent, and by NHANES 2011-2012 it again increased to over 20 percent.

Such increases are of course alarming because obesity during childhood and adolescence can bring with it significant morbidity, and frequently leads to adult obesity with its concomitant ailments and increased health care costs. Thus finding the means to reduce the progression to adult obesity is a significant health care priority. Some recent research may point to a means of doing just that.

Dr. Laura M. Bogart, Associate Professor of Pediatrics at Harvard Medical School and colleagues measured the height and weight of nearly 1400 seventh grade students at ten randomly selected Los Angeles middle schools. They used those data to calculate the students' BMIs, and to determine what percentile of BMI — corrected for gender, age, Latino race/ethnicity, US-born status, and National School Lunch Program eligibility (as a proxy for low-income status ) each student belonged to. Students at five of the schools were then assigned to an intervention, while those from the other five schools were put on a wait list for the intervention.

The intervention was a program called SNaX (Students for Nutrition and eXercise) that combined peer-led education and marketing, environmental changes in the schools as well as encouragement to eat healthy cafeteria foods. The latter included a greater mix of healthy foods made available in bite-sized portions as well as chilled water at lunch periods. "Clubs" of student leaders ran a social marketing campaign that included posters promoting healthy eating, cafeteria foods, and physical activity, as well as nutritional information about cafeteria foods—and there were taste tests of those foods and a film encouraging physical activity and healthy eating.
Students in the intervention schools were given pedometers to use and were instructed in exercises they could do at home. The interventions lasted five weeks. Based on all students' initial BMI, age, gender and other characteristics, the researchers projected what their BMIs would be two years later if their current growth rates continued. Then, two years later the students' BMIs were again assessed.

Initially, 30 percent of the students were obese; in the intervention schools the overall prevalence of obesity had not decreased by the two year reassessment. But for the students who had been obese initially, their BMI percentiles were significantly lower than the researchers' predicted values compared to the BMIs of students in the control schools. The difference, according to the investigators, amounted to a 9 pound lower body weight for the initially obese middle school students than expected.

Among other results, the investigators found that the intervention students chose more fruit and vegetables and drank more water in the cafeteria, and had more positive attitudes towards cafeteria food. They also were less likely to buy snacks at school. Senior investigator, Dr. Mark Schuster, professor of pediatrics at Harvard Medical School, said [5]"It was exciting to see that students were interested in eating fresh fruit when it was made available and that many students volunteered to learn more about healthy eating and physical activity so that they could help teach other students."

This was a complex and multi-level intervention that involved educating students, and through them their families, about healthy foods and activities. In addition to educating students at school, those in the SNaX program were also provided with activities and food information to share at home. The upshot was a relatively short-term intervention that provided benefits that lasted at least two years.

The extent to which these results are generalizable to other schools in other areas of the country are unknown, as is the longer term effect of the intervention on these youngsters. But considering the intractable nature of long-established obesity and its well-known health risks, it seems advisable to at least give it a try in other schools. Further, the effects on students’ food choices — whether they were obese or not — is another positive outcome that should be encouraged.

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