One-Fifth of U.S. Youths Have Abnormal Lipids

BY JEFF EVANS

Abnormal lipid levels are present in 20% of young people in the United States aged 12-19 years, according to estimates reported by investigators at the Centers for Disease Control and Prevention.

An analysis of data derived from four cycles of the National Health and Nutrition Examination Survey during 1999-2006 found that the prevalence of abnormal lipid levels increased with rising body mass index, from 14% of normal weight to 22% of overweight and 43% of obese adolescents.

"Based on the findings in this study, clinicians should be aware of lipid screening guidelines and recommended interventions for children and youths who are overweight or obese," the authors wrote (MMWR 2010;59:29-33).

Abnormal blood lipid levels were defined using the same cutoffs recommended by the American Academy of Pediatrics for targeted screening of children aged 2 years or older: an LDL cholesterol level of 130 mg/dL or greater, an HDL cholesterol level of 35 mg/dL or lower, and a triglyceride level of 150 mg/dL or greater.

The survey data covered a cross-sectional sample of 3,125 youths who had fasting blood samples taken for lipid testing.

A total of 32% of the sample—15% of overweight and 17% of obese participants—would be candidates for screening for abnormal blood lipid levels based on the AAP recommendations for BMI screening.

Some significant differences between participants were detected according to their gender, age, and race or ethnicity.

A greater percentage of boys had low HDL cholesterol levels (11%), compared with girls (4%). Older participants aged 18-19 years had higher rates of low HDL cholesterol (10%) and higher triglyceride levels (16%) than did participants aged 12-13 years (5% and 10%, respectively). Non-Hispanic white youths were more likely than were non-Hispanic black youths to have low HDL cholesterol (9% vs. 5%) or high triglyceride levels (12% vs. 4%).

The AAP also based its recommendations for targeted screening for abnormal blood lipid levels on family history and other risk factors related to cardiovascular disease, which were not considered in this study because NHANES data do not include family history information.

Although the AAP recommends considering pharmacologic treatment of children whose LDL cholesterol remains persistently high even after lifestyle counseling, less than 1% of the adolescents in this NHANES study and a previous analysis of the same NHANES data set were found to have "lipid levels high enough to warrant drug therapy according to AAP guidelines," the CDC investigators reported.

The U.S. Preventive Services Task Force recently recommended screening for overweight and obesity in children aged 6 years and older and offering or referring children to intensive counseling and behavioral interventions. ■

VITALS

Major Finding: The prevalence of abnormal lipid levels is estimated to be 14% for normal weight, 22% for overweight, and 43% for obese youths aged 12-19 years.

Data Source: Analysis of National Health and Nutrition Examination Survey data for 1999-2006.

Disclosures: The authors are employees of the CDC.

Computer Device Helps Obese Adolescents Reduce Food Portions

BY JENNIE SMITH

A computer device used to treat anorexic patients has been shown to be effective against adolescent obesity, reducing patients' body mass index and rate of food consumption even 6 months after the completion of treatment and monitoring.

The Mandometer, as the device is called, was developed at the Karolinska Institutet in Stockholm. It consists of a scale placed beneath the plate of food, and a small monitor that helps patients compare and align their perceptions of satiety, in real time, with those of a normal eater.

Anorexic patients at Mandometer clinics in Sweden, the United States, and Australia have used the device to retrain themselves to eat more food than would typically cause them feel full.

Adolescents are 'a difficult group to persuade. ... Young people like computers and they're used to them. They comply better because it's fun for them.'

"With obesity, it teaches patients to eat slower," Per Södersten, Ph.D., one of the report's authors and the inventor of the device, said in an interview. "Otherwise the principles are identical."

The report presents results from a randomized controlled trial of 106 obese patients between the ages of 9 and 17 at the Bristol (England) Royal Hospital for Children. Dr. Julian P.H. Shield led the study along with Anna L. Ford, a research nurse trained a Mandometer clinic in Sweden.

Of the participants, 54 were trained to use the device during evening meals at home, while the other 52 were given standard care consisting mostly of advice on exercise and nutrition. The same advice was provided to the group using the Mandometer (BMJ 2010;340:b5388).

After a year, the Mandometer group showed significant improvements in body mass index. Of the 91 patients who were assessed at 12 months, the mean adjusted standard deviation score difference between the two groups was 0.27, the report said. Importantly, that difference was maintained at 18 months, 6 months after treatment and monitoring had ceased. (Nine patients were lost to follow-up in the Madometer group; six were lost in the standard-care group.) Though their Mandometers had been taken away, the subjects still tended to eat significantly smaller portions than they had before beginning treatment.

The discovery of maintained weight loss and consumption of smaller portions 6 months on "was probably the best bit," Dr. Shield said in an interview. "We specifically chose adolescents because they're a difficult group to persuade to eat better and exercise. But by doing this extra thing to help them eat more slowly it allows them to curtail their portion sizes."

Using a computer to track eating habits is not entirely novel, said Dr. Södersten, who cited research dating back to the 1960s in the United States, and the 1970s in Germany. "We followed that tradition and realized the device could be used for clinical intervention," he said.

The adolescent subjects of the Bristol study adapted well to using the device, he added. "Young people like computers and they're used to them. They comply better because it's fun for them."

Dr. Södersten and another coauthor own shares in the company that manufactures Mandometer. ■

In New York, Obesity Tied To H1N1 Hospitalizations

BY HEIDI SPLETE

More than half of the adults hospitalized in the early days of the influenza A(H1N1) pandemic in New York City were obese, and 92% of the obese patients had underlying medical conditions, according a review published in the Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report.

To quickly assess the severity of illness and identify those at greatest risk from the emerging virus, researchers at the New York City Department of Health and Mental Hygiene reviewed data from the first 99 patients with polymerase chain reaction–confirmed H1N1 influenza admitted to any hospital in the city during April 25–May 24, 2009.

The study population of 54 men and 45 women was disproportionately young, compared with the general population, the researchers indicated (MMWR 2010;58:1436-40).

A total of 95 patients had fevers when they were admitted to the hospital, and 89 complained of cough. In addition, 37 children and 36 adults had at least one underlying medical condition known to increase the risk of complications from flu, and 7 children and 10 adults had more than one such condition.

Asthma, the most common underlying medical condition, was noted in 29 children (50%) and 19 adults (46%). Chronic metabolic disorders, including diabetes, were reported in 11 patients (11%).

Body mass index data were available for 28 children and 20 adults. Five children and 12 adults were obese (BMI between 30 and 40 kg/m^2). Four of the five obese children and 11 of the 12 obese adults had underlying medical conditions, including asthma and Down syndrome.

Three of the four patients who died were obese, and their underlying medical conditions included asthma and Down syndrome, according to the investigators.

A total of 76 patients (77%) were treated with oseltamivir, and 36 (47%) of these were treated within 2 days of the onset of symptoms, but the median time to treatment from the onset of illness was 3 days. Hospital stays were significantly shorter for patients who started antiviral therapy within 2 days, the researchers noted.

The study was limited by several factors including the potential underreporting of cases and the difference in reporting protocol later in the pandemic, when data were collected from sentinel hospitals only.

But H1N1 data collection from sentinel hospitals is underway, with an emphasis on gathering height and weight information to better determine the impact of obesity on hospitalization.

Meanwhile, "public education campaigns should encourage patients at high risk of severe illness to be vaccinated," the researchers said. ■