

When targeting obesity in sixth-graders, gender matters

March 26 2012

Intervention programs aimed at curbing obesity in adolescents may be more effective if they are gender-specific, according to research presented today at the American College of Cardiology's 61st Annual Scientific Session. The Scientific Session, the premier cardiovascular medical meeting, brings cardiovascular professionals together to further advances in the field.

This study looked at the health behaviors and cardiovascular markers—including blood cholesterol, random blood sugar, blood pressure, and resting and recovery heart rate—of more than 2,000 sixth-graders to tease out factors that may protect against [obesity](#) in boys and [girls](#). There are important differences between boys and girls in both behaviors and risk factors that are associated with obesity.

"As kids start approaching adolescence, we need to think about what motivates them to be active and stay healthy," said Elizabeth Jackson, MD, MPH, assistant professor of Medicine, Division of Cardiovascular Medicine, University of Michigan Systems, Ann Arbor, Mich. "The best way to target healthier behaviors may be to have a different message geared toward boys and girls." Based on the analysis, vigorous physical activity (exercising ≥ 5 times/week) and involvement in team sports appear to be especially protective against obesity in boys, but not girls. Surprisingly, when it comes to obesity in girls, drinking milk emerged as an independent predictor of healthier weight.

"We were expecting to see exercise as important for both genders but, in

general, girls tend to exercise less than boys," said Morgen Govinden, medical student, University of Michigan and the study's lead investigator. "Interestingly, both the obese and non-obese girls were exercising at about the level of the obese boys. This underscores the need to devise tailored approaches that will appeal to girls and encourage regular physical activity."

Govinden speculates that girls may not classify certain activities like cheerleading or dancing as exercise, and said that if the definition for "vigorous physical activity" was lowered from five to three times a week, it might include more girls. Previous studies have shown that as girls move into adolescence, they are less likely to get involved with team sports. While the role of milk in controlling obesity remains unknown, there is other research showing increased calcium consumption correlates with healthier weight.

Further reinforcing previous study findings by the same research group, data showed that regularly eating [school lunches](#) and watching more than two hours of television per day can independently predict obesity in both girls and boys. Therefore, any intervention to help curb obesity should focus on improving the nutritional value of school lunches and reducing time in front of the TV or computer. While the nutritional content of school lunches was not evaluated, eating school lunches correlates with poorer lifestyle behaviors and socioeconomic status.

Researchers at the University of Michigan collected and analyzed data from 2,048 sixth-grade students enrolled in more than 20 participating Project Healthy Schools (PHS) from 2004-2011. They compared [health behaviors](#) and physiologic markers, including lipids, random glucose, blood pressure, and resting and recovery heart rate. Students were stratified by gender and obesity (defined as a body mass index (BMI) > 95th percentile for age and gender).

Not surprisingly, students who were not obese had significantly healthier physiologic markers compared to obese students. But some physiological markers differed by gender. For example, there was not a significant difference between total cholesterol or LDL between the obese and non-obese girls. Also, the obese boys had much higher cholesterol than both obese and non-obese girls.

Obesity and its related health problems such as diabetes and high cholesterol, which typically do not manifest until adulthood, are a growing public health concern and have become a top priority for many communities and schools. PHS is designed to teach sixth grade students about heart-healthy lifestyles, with hopes of reducing their future risk of cardiovascular disease and diabetes, and is supported by a broad community partnership.

Provided by American College of Cardiology

Citation: When targeting obesity in sixth-graders, gender matters (2012, March 26) retrieved 23 April 2024 from <https://medicalxpress.com/news/2012-03-obesity-sixth-graders-gender.html>

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