Cutting screen time may help reduce overweight children's BMI

March 3 2008

Using a monitoring device to reduce television viewing and computer use time by 50 percent over a two-year period appears to reduce calorie intake, sedentary behavior and body mass index in overweight children age 4 to 7, according to a report in the March issue of *Archives of Pediatrics & Adolescent Medicine*, one of the JAMA/Archives journals.

Previous studies have shown an association between television viewing and obesity, according to background information in the article. "Television viewing is related to consumption of fast food and foods and beverages that are advertised on television," the authors write. "Viewing cartoons with embedded food commercials can increase choice of the advertised item in preschoolers, and television commercials may prompt eating. Television viewing or related sedentary behavior may prompt eating by the association of these behaviors with eating, and television viewing and related behavior may impair the development of satiety by interfering with habituation to gustatory and olfactory cues."

Leonard H. Epstein, Ph.D., of the University at Buffalo, the State University of New York, and colleagues conducted a randomized controlled clinical trial involving 70 children age 4 to 7 years whose body mass index (BMI) was at the 75th percentile or higher for their age and sex. All participants regularly watched television or played computer games for at least 14 hours per week at home. For the study, their families agreed to have a monitoring device installed on each television set and computer monitor. Each family member had an individual code to activate the electronic devices.

During the study, 36 children were randomly assigned to the intervention group; their codes had a set weekly time limit. Study staff reduced these children's weekly screen time allotment by 10 percent per week until a 50 percent reduction was reached. Additional incentives, including money and stickers on a chart, were provided for watching less than the available amount. The other 34 participating children were assigned to a control group with no restrictions on TV or computer use. Body mass index, television viewing, calorie intake and physical activity were monitored every six months for two years.

By the end of the study, children with no time limits reduced their TV and computer use by an average of 5.2 hours per week, compared with an average reduction of 17.5 hours per week among children whose time was restricted. BMI as adjusted for age and sex and calorie intake also were lower among the group with restrictions on viewing than among the control group. No difference between the two groups was observed in the amount of physical activity.

"Using technology to modify television viewing eliminates parental vigilance needed to enforce family rules and reduces the disciplinary action needed if a child exceeds his or her sedentary behavior limits," the authors conclude. "Perhaps most important, the device puts the choice of when to watch television in the child's control, as opposed to a rule such as no television time until homework is completed."

Source: JAMA and Archives Journals