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Physical Activity in Children Declines Significantly from Age 9 to 15

UC San Diego Led Study Urges Community-wide Changes

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Kim Edwards

The increase in childhood obesity may be due, in part, to children's decline in physical activity as they age, according to a new study by researchers at the University of California, San Diego School of Medicine; University of Arkansas; University of North Carolina at Greensboro; and RTI International.

The study, published in the July 15 issue of the *Journal of the American Medical Association,* found that children's moderate-to-vigorous physical activity decreased by greater than one-third as they aged from 9 to 15. Moderate to vigorous physical activity consisted of all types of physical activity, including walking.

"While we all knew children and youth were moving less, the magnitude of the rate of decline calls for renewed action to increase activity levels in the population," said lead author, Philip R. Nader, M.D., professor emeritus, Department of Pediatrics, UC San Diego School of Medicine. "Physical activity is a crucial part of the energy equation; declining physical activity will only complicate the obesity epidemic."

The study measured the physical activity of more than 1,000 youths in ten cities, beginning in 2000, when the children were 9-years-old and ending in 2006, when they reached 15 years of age.

During the study, the children's physical activity was measured using an "accelerometer" which recorded minute-by-minute movement counts. At 4 different stages (ages 9, 11, 12, 15), participants wore the monitor on a belt around the waist during waking hours for a total of five weekdays and two weekend days. This excluded showering, bathing, water sports or contact sports.

The researchers found that at age 9, children engaged in about three hours of moderate-to-vigorous physical activity per day on both weekdays and weekends. By age 15 that number had dropped to only 49 minutes per day during the week and 35 minutes on weekends, much less than the recommended 60 minutes per day.

The study also showed that boys were more active than girls, spending 18 more minutes per weekday and 13 more minutes per weekend day engaged in moderate-to-vigorous physical activity. However, the rate of decline as they aged was the same for boys and girls.

"Program and policy action are needed immediately at the family, community, school, health care, and governmental levels to find ways to encourage children to remain active as they get older," said co-author Renate Houts, Ph.D., research statistician and psychologist at RTI International. "Unless parents, elected officials, and volunteer and philanthropic organizations begin creating new opportunities for children's activities, childhood obesity rates will likely continue to rise."

Researchers recommend parents and care givers start early, by providing safe places, preferably out doors, in which to engage in active play. They also advise that daycare and early child care programs include activity and that school systems increase both quality and quantity of PE and recess in schools. "To foster the necessary

culture and environment for activity, adults will have to become role models for children and youth, stressing activity and exercise for enjoyment and fun rather than drudgery or punishment," said Nader.

This study was directed by the Steering Committee of the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) Study of Early Child Care and Youth Development and supported by NICHD through a cooperative agreement, which calls for scientific collaboration between the grantees and NICHD staff members.

Childhood Obesity: A National Epidemic

According to statistics from two NIH (National Institutes of Health) surveys, in the past two decades the prevalence of overweight children aged 6-11 years has increased from 6.5% to 18.8%; and for those aged 12-19 years, prevalence increased from 5.0% to 17.4%. Overweight adolescents are also more likely to have risk factors associated with cardiovascular disease, such as high blood pressure, high cholesterol, and Type 2 diabetes, than other adolescents.

Childhood obesity has tripled from what it was thirty years ago. And, even then, Philip R. Nader, M.D., was urging parents and the medical community to take this issue more seriously. He is one of the developers of the CATCH program, (Coordinated Approach to Child Health), which has been adopted in more than 7,000 elementary schools nationwide. CATCH focuses on good health habits instead of weight. Students use a traffic-light system to identify foods that are "go," "slow," or "whoa" and school P.E. and family activities are designed to keep every child moving.

Nader's work has been covered consistently by local, national and international media, including *USA Today*, *US News and World Report*, *The New York Times*, *Forbes*, CNN, and the Associated Press. Recently, Nader put to paper his clear-sighted, ground-breaking child rearing ideas in a book titled, *"You CAN Lose Your Baby Fat: New Rules To Protect Kids From Obesity."* Co-written with Michelle M. Zive, M.S., R.D., a nutritionist with the Division of Community Pediatrics, UC San Diego School of Medicine and principal investigator of the Network for a Healthy California in San Diego and Imperial Counties, this guide provides parents, caregivers, and others with specific tips and rules to follow from pregnancy through adolescence to safeguard children against obesity.

Media Contact:Kim Edwards, kedwards@ucsd.edu or 619- 543-6163