

## Children with MS are at increased risk of becoming obese in childhood

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(Medical Xpress) -- In addition to the health problems children with multiple sclerosis face, a risk of obesity has entered the picture. A new study conducted by pediatric MS specialists at the University at Buffalo has found that children with multiple sclerosis and other pediatric demyelinating disorders are at increased risk of childhood obesity, compared to children without these disorders.

The findings build on a study done by other researchers showing an association between [obesity](#) in adolescence and MS in adulthood, but this appears to be the first study to evaluate obesity in relation to pediatric demyelinating disorders.

Results of the current research were presented at a poster session at the 2011 American Academy of Neurology meeting held in April in Honolulu. E. Ann Yeh, MD, UB assistant professor of neurology and a pediatric MS specialist in the UB School of Medicine and Biomedical Sciences, is first author.

"We found that rates of obesity were high in [children](#) with demyelinating disorders and were especially prevalent in boys," says Yeh. "Boys with demyelinating disorders were almost twice as likely to have a BMI greater than the 95th percentile than boys in the control group."

The findings are based on the [body mass index](#) of 186 children: 41 with MS, 34 with acute disseminated encephalomyelitis (ADEM), a monophasic demyelinating disorder seen primarily in childhood; 15 with

clinically isolated syndrome, an individual's first demyelinating episode (distinct from ADEM); eight with recurrent [optic neuritis](#) (RON), inflammation of the [optic nerve](#), and 87 children with other neurological disorders who served as controls.

Although obesity has been linked to heart disease and diabetes, among other illnesses, little is known about its relationship to inflammatory demyelinating disorders.

"Increasing rates of [childhood obesity](#) have been reported widely in the media and in medical journals," says Yeh, "but no information is available on the relationship between obesity and childhood-onset demyelinating disorders."

Subjects in the current study were patients of UB's Pediatric MS and Demyelinating Disorders Center of Excellence at Women and Children's Hospital of Buffalo. Data were collected prospectively between January 2003 and October 2010 in patients under the age of 18.

BMI scores, percentile of age scores, and a measure called BMI z-scores were calculated at disease presentation, using a standardized pediatric BMI calculator. (A Z-Score is a statistical measure that shows how a single data point compares to normal data.)

Results showed that rates of overweight and obese children were greater in the demyelinating groups than in the control group, and that boys in the demyelinating groups were twice as likely as girls to have a BMI in the 95th percentile or greater.

"These findings underscore the need for attention to the nutritional and physical needs of children with these disorders," states Yeh.

"Comprehensive programs oriented toward the prevention of obesity in all children are needed, but we also need further studies to help define

the relationship between obesity and risk for demyelinating disorders."

Murali Ramanathan, PhD, UB professor of pharmaceutical sciences and neurology, and Bianca Weinstock-Guttman, PhD, UB associate professor of neurology, both associated with the Pediatric MS and Demyelinating Disorders Center of Excellence, also contributed to the research.

Provided by University at Buffalo

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