Infant BMI is good predictor of obesity at age 2

April 22 2016

Babies with a high body mass index (BMI) at age two months are at risk for obesity at age two years, say pediatric researchers. The authors, in an online study published today in *Pediatrics*, say that BMI better predicts early childhood obesity than weight-for-length, the current standard measurement.

"An important factor in preventing obesity in adults is identifying at-risk individuals as early as possible, when interventions may have the greatest effect—even during infancy," said lead author Sani Roy, M.D., a pediatric endocrinology fellow at The Children's Hospital of Philadelphia (CHOP). "However, there is no currently accepted definition for excess body weight below age two."

Roy added that the American Academy of Pediatrics currently recommends using weight-for-length (WFL) as a standard measurement during infancy, and that WFL is also predominantly used worldwide.

BMI is widely used in children over age two years to identify those at risk for health complications of excess weight or future obesity. BMI charts are available from birth to age two, but are generally not used in clinical care. Unlike BMI charts, the more widely used WFL charts, do not have an age component; therefore, children with similar WFL may differ greatly in age. Because gains in weight and length occur at different rates during infancy, it is important to account for both age and length when evaluating excess weight gain.

In the current research, the study team analyzed medical records of nearly 74,000 full-term infants seen during their first two years at well-child visits in the CHOP pediatric network from 2006 to 2011.

The authors found it remarkable that 31 percent of two-month-old babies with BMI at or above the 85th percentile were obese at age two, compared to 23 percent of two-month-olds at the 85th percentile by WFL. At the 97.7th percentile for BMI at age two months, 47 percent of babies were obese at age two years compared to 29 percent by WFL.

"To our knowledge, this was the first study to compare BMI to WFL in predicting future obesity risk in a large, diverse cohort of full-term infants," said senior author Babette S. Zemel, Ph.D., the director of CHOP's Nutrition and Growth Laboratory. "We found that while BMI and WFL agreed after age six months, high BMI at age two months was a better predictor of obesity at two years of age than WFL. We recommend that clinicians consider measuring BMI in early infancy."

More information: Sani M. Roy, et al, "Infant BMI or Weight-for-Length and Obesity Risk in Early Childhood, *Pediatrics*, published online April 22, 2016. doi.org/10.1542/peds.2015-3492

Provided by Children's Hospital of Philadelphia