Early-life risk factors account for racial and ethnic disparities in childhood obesity

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most of which could be changed—appear to explain the recognized racial and ethnic disparities in the incidence of childhood overweight and obesity. In a report being published online in *JAMA Pediatrics*, a team of researchers report a prospective study finding that increased prevalence of obesity and overweight among black and Hispanic 7-year-olds could largely be explained by risk factors such as rapid infant weight gain, early introduction of solid foods and a lack of exclusive breast feeding.

"We know that, already by the age of 2, black and Hispanic children have close to double the rate of obesity of white children in the U.S.," says Elsie Taveras, MD, MPH, chief of General Pediatrics at MassGeneral Hospital who led the study. "Our finding that most of these racial/ethnic differences can be explained by behavioral risk factors indicates that designing and implementing interventions to reduce those risk factors during pregnancy, infancy and early childhood could help eliminate racial and ethnic disparities in childhood obesity."

A 2010 study led by Taveras, then with Boston Children's Hospital, was the first to demonstrate that almost all known early-life risk factors for childhood obesity—including low rates of breastfeeding, lack of sleep, and high consumption of fast foods and sugar-sweetened beverages—are more common among black and Hispanic children. In order to find any direct relationship between those risk factors and the incidence of child overweight and obesity, the current study followed a group of more than 1,000 children, from early pregnancy to age 7, whose mothers had

enrolled in a long-term study called Project Viva. Those women, who received care at Harvard Vanguard Medical Associates, participated in study visits at the end of their first and second trimesters, soon after delivery and at 6 months, 3 years and 7 years. Along with measuring the child's height, weight and body fat at those visits, the researchers collected information about a number of known obesity risk factors as well as socioeconomic information.

As previous studies had found, black and Hispanic children had almost double the incidence of overweight and obesity by age 7 as did white children in the study group. While all the measured risk factors were more prevalent among black and Hispanic children, these were most closely associated with overweight and obesity:

- rapid infant weight gain
- non-exclusive breastfeeding
- introduction of solid foods before 4 months
- sleeping less than 12 hours per day
- drinking sugar-sweetened beverages
- eating fast food frequently
- the presence of a television in the bedroom

"A 2010 White House Task Force report on childhood obesity highlighted the disturbingly increasing trends of obesity among racial and ethnic minority children and the importance of early-life risk factors," Taveras says. "Our study supports that report by demonstrating that a significant percent of these disparities can be explained by early-life risk factors, which has tremendous implications for the development of interventions at all levels. These results are important for all adults who work with young children and their families." Taveras is an associate professor of Pediatrics and Population Medicine at Harvard Medical School (HMS).

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