



### **April 2015 Media Alert: *The Journal of Nutrition***

The following articles are being published in the April 2015 issue of *The Journal of Nutrition*, a publication of the American Society for Nutrition. Summaries of the selected articles appear below; the full text of each article is available by clicking on the links listed. Manuscripts published in

*The Journal of Nutrition* are embargoed until the article appears online either as in press (Articles in Press) or as a final version. The embargoes for the following articles have expired.

**[Childhood malnutrition in Jamaican parents associated with developmental deficits in their children - continued call for improved nutrition in early life](#)**

**[Childhood vitamin D deficiency in the Netherlands linked to non-Western ethnic background, inactivity, and reduced outdoor playtime](#)**

**[Parental feeding style associated with children's consumption of sugar-sweetened beverages](#)**

**[Childhood malnutrition in Jamaican parents associated with developmental deficits in their children - continued call for improved nutrition in early life](#)**

Although a person's height is determined in part by his or her genetics, being relatively short in stature can also be due to malnutrition - especially when it occurs in early life. Many studies have shown that low height-for-age (referred to as "stunting") during infancy and childhood is associated with poor cognitive development in school-aged children and decreased work capacity and income in adulthood. These outcomes are posited to have significant negative effects on work productivity of entire societies. Recently, a collaboration of researchers from Jamaica and the UK asked whether these effects might be intergenerational. In other words, when a stunted child grows up and has children, are those children also at greater risk for developmental delays? This study and its results are described in detail in the April 2015 issue of *The Journal of Nutrition*.

The study represents a follow-up project of research initiated in 1986 when 127 stunted Jamaican children aged 9-24 months were randomly assigned to 4 groups: a control group that received free medical care only, and groups receiving nutritional supplements, psychosocial stimulation, or both treatments. A cohort of 32 non-stunted children from the same region was enrolled as a comparison group. The original study found significant improvements in development and sustained benefits among the stunted children who received the psychosocial stimulation. Nutritional supplements led to improvements during the intervention period, but they were not maintained. For the current study, the researchers located 41 children born to the original group of stunted children who did not receive the stimulation intervention. They also located 48 children born to the non-stunted children studied 3 decades earlier. Cognitive function in the second generation was assessed using the Griffiths mental development scales.

### **Upcoming Events**

**March 28-April 1. ASN Scientific Sessions & Annual Meeting** at EB 2015. Boston, MA. Featuring origins of disease; gut microbiota; and meal timing. Passes for media. [Email](#) us to attend.

### **Journal Links**

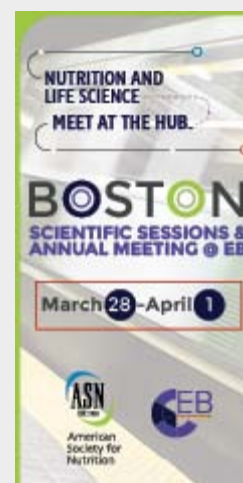
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After mathematically controlling for factors that could account for developmental differences between groups (e.g., child age, sex, mother's education, socioeconomic status), the researchers found that children born to stunted parents had lower development scores related to cognition. They concluded that the impact of stunting on development continues in the next generation. In addition to providing new evidence that improving nutrition in early life should be a global priority, this finding may have important implications in terms of optimizing social and economic development around the world, especially in regions where stunting remains an enduring, endemic public health problem.

**Reference** Walker SP, Chang SM, Wright A, Osmond C, Grantham-McGregor SM. Early childhood stunting is associated with lower developmental levels in the subsequent generation of children. *Journal of Nutrition* 145: 823-8, 2015.

**For More Information** To contact the corresponding author, Dr. Susan Walker, please send an e-mail to [susan.walker@uwimona.edu.jm](mailto:susan.walker@uwimona.edu.jm).

**Childhood vitamin D deficiency in the Netherlands linked to non-Western ethnic background, inactivity, and reduced outdoor playtime**

Vitamin D is both a nutrient and a hormone. Although we can obtain it from a limited number of foods such as fatty fish, we can also make it from cholesterol when our skin is exposed to sufficient amounts of sunlight. For this reason, vitamin D is sometimes referred to as the "sunshine vitamin." Because vitamin D is needed for calcium absorption in the intestine, vitamin D deficiency causes weak bones. Vitamin D is also needed for many other functions such as immune development. Whereas fortification of milk and other foods (e.g., margarine) with vitamin D in the US and other countries has significantly reduced vitamin D deficiency worldwide, it may be reappearing at an alarming rate. This is especially true in darker-skinned children, because skin pigment can lower vitamin D synthesis in the body. Risk of vitamin D deficiency is especially high in countries situated far from the equator because of shortness of days during the long winter months. To help understand what factors might be related to vitamin D status in one such country, the Netherlands, a collaboration of researchers led by Dr. Trudy Voortman and Dr. Edith van den Hooven (Erasmus MC, University Medical Center, Rotterdam) examined the associations between sociodemographic and lifestyle characteristics and vitamin D deficiency in children born in Rotterdam. Their results are published in the April 2015 issue of *The Journal of Nutrition*.

To describe vitamin D status in the population and investigate parental, child, and environmental factors related to vitamin D status in children, the researchers collected blood samples from a total of 4167 6-year-old children. Clinical examinations were performed, and extensive questionnaires administered. Dietary evaluations were also conducted with a subset of the children to estimate dietary vitamin D consumption in early childhood.

Thirty percent of the children were found to be deficient in terms of vitamin D status, and 6% had severe vitamin D deficiency. Prevalence of vitamin D deficiency was substantially higher in winter than summer (51 vs. 10%, respectively). Ethnicity was highly associated with risk of deficiency: 55% of African, Asian, Turkish, and Moroccan children were deficient compared to 18% of children classified as Dutch or European. Children who watched more television and played less outside were also more likely to be deficient than those who watched less television and played more outside. Interestingly, vitamin D status wasn't associated with actual vitamin D intake or supplement use, but instead with poor overall dietary patterns. The researchers concluded that suboptimal vitamin D status is common in the Netherlands, especially in the winter and in children with a non-Western ethnic backgrounds. This appears to be related to not only season and skin tone but also poor overall diet quality, sedentary behavior, and inadequate

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**Reference** Voortman T, van den Hooven EH, Heijboer AC, Hofman A, Jaddoe VVW, Franco O. Vitamin D deficiency in school-age children is associated with sociodemographic and lifestyle factors. *Journal of Nutrition* 145:791-8, 2015.

**For More Information** To contact the corresponding author, Dr. Trudy Voortman, please send an e-mail to [Trudy.voortman@erasmusmc.nl](mailto:Trudy.voortman@erasmusmc.nl).

#### **Parental feeding style associated with children's consumption of sugar-sweetened beverages**

With high obesity rates leading to increases in serious health conditions including Type 2 diabetes and heart disease, researchers and clinicians continue to try to understand ways to prevent excessive weight gain throughout the life cycle. Because being overweight or obese in childhood may be the biggest risk factor for becoming an overweight or obese adult, there is special interest in understanding environmental, dietary, and behavioral practices that predispose children to eat poorly and gain excess weight. Sugar-sweetened beverages like regular soda, fruit drinks, and sports drinks have received considerable attention in this regard because they contribute a substantial percentage of calories to the diets of US children and are related to adverse health outcomes during childhood such as obesity, dental caries, and overall nutrient-poor diets. To shed light on whether parent-driven feeding practices might impact intake of sugar-sweetened beverages in childhood, a research team led by Dr. Sohyun Park (US Centers for Disease Control and Prevention, CDC) studied 1350 US children and their mothers. You can read more about this study and its findings in the April 2015 issue of *The Journal of Nutrition*.

Data used in this study were drawn from the Infant Feeding Practices Study II conducted by the US Food and Drug Administration (FDA) and the CDC between 2005 and 2007. A follow-up study was conducted in 2012 when the children were 6 years old, allowing the researchers to assess both early parental feeding philosophy and practices as well as children's consumption of sugar-sweetened beverages. Feeding practices were assessed using answers the mothers gave to 4 questions, such as "If I did not guide or regulate my child's eating, my child would eat too much of his or her favorite foods." Children's typical daily consumption of sugar-sweetened beverages was assessed by asking caregivers how often each child consumed these types of drinks during the past month.

Children of mothers who tended to put limits on their child's intake of sweets and junk foods were less likely to consume sugar-sweetened beverages than those whose mothers did not set limits. However, when mothers of underweight or normal-weight children restricted the child's favorite food intake, he or she was more likely to drink sugar-sweetened beverages. Overall, underweight and normal-weight children consumed less sugar-sweetened beverages than did children who were overweight and obese. The researchers urge additional studies designed to investigate the impact of alternatives to restrictive feeding practices that could lead to lower sugar-sweetened beverage intake during childhood.

**Reference** Park S, Li R, Birch L. Mothers' child-feeding practices are associated with children's sugar-sweetened beverage intake. 145: 806-12, 2015.

**For More Information** To contact the corresponding author, Dr. Sohyun Park, please send an e-mail to [spark3@cdc.gov](mailto:spark3@cdc.gov).

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