Dengue Vaccine Protects Youth

Researchers have reported that a new vaccine against the dengue virus protected children and adolescents in a phase 3 trial conducted in Asia and Latin America.

Dengue is considered a public health threat by the World Health Organization (WHO), with more than half of the world’s population living in areas where the mosquito-borne disease is endemic. According to a WHO position paper, the existing chimeric yellow fever–dengue, tetravalent dengue vaccine has offered long-term protection to those who test seropositive for a previous dengue infection but was associated with more severe dengue disease among vaccinated individuals who were seronegative.

The most recent trial results of the new vaccine candidate, TAK-003, in about 20,000 young study participants suggest that its overall efficacy against infection is about 80%. Twelve months after the second dose, the vaccine was 95.4% effective against dengue infection requiring hospitalization. Among those who tested seronegative for a previous dengue infection, the vaccine’s efficacy was 74.9%.

“The results of this first analysis are very encouraging, indicating that the vaccine could potentially provide important public health benefits against dengue fever and hospitalization,” coauthor Humberto Reynales, MD, PhD, director of the Centro de Atención e Investigación Médica in Bogotá, Colombia, said in a statement. “If longer follow-up data confirm this initial observation, we are looking at a significant step forward in the global fight against dengue.”

At the American Society of Tropical Medicine and Hygiene’s recent annual meeting, researchers reported that the vaccine’s overall efficacy was 73.3% at 18 months.

Climate Change Puts Children at Risk

Urgent action is needed to meet the Paris Agreement climate goals to limit the potential health impacts on children worldwide, according to a statement from 120 international climate experts.

The statement is the latest from The Lancet Countdown on Health and Climate Change, a collaborative project involving experts from 35 leading health institutions around the globe, including the World Health Organization and the World Bank. It emphasizes children’s vulnerability to climate change. As global temperatures already exceed 1°C above preindustrial levels, the experts noted that children born today will experience a world that is 4°C warmer than the preindustrial average, which could result in far-reaching health repercussions.

Reduced crop production is likely to bring about malnutrition and rising food prices that often disproportionately affect infants and may compromise their lifelong health. Warmer temperatures will also facilitate the spread of infectious diseases that can be deadly to children and infants, including vector-borne diseases like dengue and bacteria like *Vibrio* species that cause diarrheal illnesses. Worsening air pollution poses a risk to adolescents’ lung development and contributes to reduced lung function, more severe asthma, and an elevated risk of cardiovascular events later in life. More extreme weather events and heat waves are also expected.

“The path that the world chooses today will irreversibly mark our children’s futures,” coauthor Stella Hartinger, MSc, PhD, from Cayetano Heredia University in Lima, Peru, said in a statement. “We must listen to the millions of young people who have led the wave of school strikes for urgent action. It will take the work of 7.5 billion people currently alive to ensure that the health of a child born today isn’t defined by a changing climate.”

Cesarean Deliveries Not Linked to Obesity in Latest Study

A large Swedish study published in *PLOS Medicine* appears to debunk the idea that either elective or nonelective cesarean delivery increases the risk that a child will develop obesity.

“Dramatic increases in cesarean deliveries have raised alarm about the potential public health effects. One concern has been whether this trend might contribute to a parallel increase in obesity. But evidence to date has been mixed. Some studies suggest that children born via cesarean delivery have a higher risk of obesity, but other studies have not.”

The Swedish study analyzed data from 97,291 men aged 18 years who were born between 1982 and 1987. Obesity rates were similar regardless of how they were delivered. Among those born via vaginal delivery, 4.9% were obese compared with about 5.5% of the men delivered by elective or nonelective cesarean. The authors found no difference in the relative risk of developing obesity among the men born via elective or nonelective cesarean compared with those born vaginally when they adjusted for potential confounders.

Instead, they found that maternal weight prior to pregnancy was a more likely influence on the increased risk of obesity that’s been linked with cesarean delivery.

“Most of the association between C-section and obesity could be explained by maternal pre-pregnancy BMI,” lead author Viktor H. Ahlvqvist, MSc, of the Karolinska Institute in Stockholm, said in a statement. “This suggests that heritability and fetal exposure to obese-causing factors in the womb are more important when assessing the risk of obesity in the offspring than the mode of delivery.” - Bridget M. Kuehn, MSJ

*Note: Source references are available through hyperlinks embedded in the article text online.*