

NUTRITION

Giving vitamin A supplements to mothers has lasting benefits for their offspring

Treatment of maternal vitamin A deficiency could translate into long-term health benefits for offspring, according to the results of a recent study. A program of vitamin A supplementation before, during and after pregnancy in women from a chronically undernourished region of Nepal was associated with improved lung function in their pre-adolescent children.

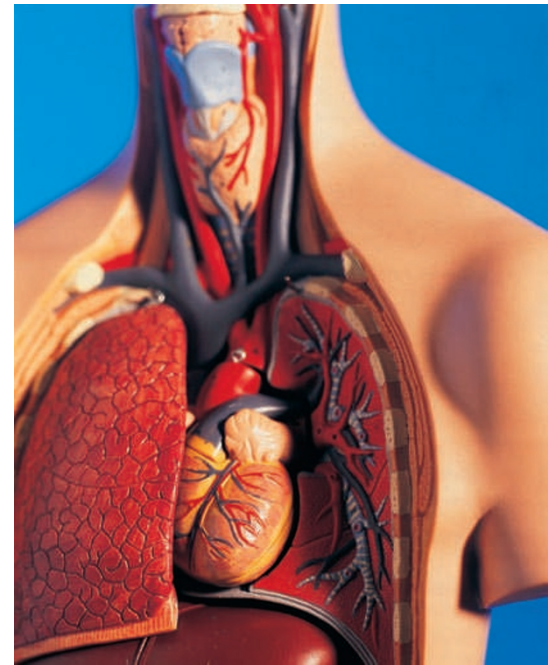
The research team, from Johns Hopkins University in Baltimore, has been carrying out nutrition and health-intervention research in the developing world for two decades, with the goal of finding affordable and effective ways to reduce maternal, infant and child mortality. “We recognized at the outset that trials delivering essential nutrients early in life could possibly alter the health trajectory of the next generation,” first author William Checkley explains.

Vitamin A deficiency has long been implicated in lung disease. As alveolar development occurs *in utero*, Checkley and his team hypothesized that vitamin A supplementation during pregnancy might help prevent pulmonary disease

after birth. The researchers, therefore, performed a follow-up investigation of the children of Nepalese women who had earlier participated in a placebo-controlled, randomized study of the effects of weekly administration of low-dose vitamin A or β -carotene on maternal mortality.

The follow-up study involved 1,371 children aged 9–13 years. The investigators found that the children of mothers who received vitamin A had better lung function (determined by spirometry as a proxy of lung size) than those whose mothers received placebo. Maternal supplementation with β -carotene had an intermediate effect on lung function.

Checkley is keen to stress that the results represent the population distribution of lung function and so might not apply on an individual basis. Nonetheless, “the magnitude of effect observed in this study is slightly greater than that associated with preventing exposure to parental smoking in school-age children.” The team will continue to follow the Nepalese children to determine whether further differences



emerge between the treatment groups with increasing age.

Vicky Heath

Original article Checkley, W. *et al.* Maternal vitamin A supplementation and lung function in offspring. *N. Engl. J. Med.* 362, 1784–1794 (2010)