

# Childhood malnutrition linked to higher blood pressure in adults

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A small child in Mumbai, with a shaved head, eating bread with her hand.  
Credit: Wen-Yan King/Wikipedia

Severe malnutrition in childhood may increase the risk for high blood

pressure in adulthood—a possible significant impact on global health, according to new research in the American Heart Association journal *Hypertension*.

Inadequate nutrition before birth and up to age 5 may harm the heart's development, researchers said.

"If nutritional needs are not met during this time, when structures of the body are highly susceptible to potentially irreversible change, it could have long-term consequences on heart anatomy and blood flow later in life," said Terrence Forrester, Ph.D., study senior author and chief scientist, UWI Solutions for Developing Countries, at the University of the West Indies, Mona, in Kingston, Jamaica.

"We are concerned that millions of people globally who suffer malnutrition before or after birth are at increased risk of hypertension in later life," Forrester said. Researchers compared 116 adults who endured malnutrition growing up in Jamaica to 45 men and women who were adequately fed as children. The participants, most in their 20s and 30s, were measured for height, weight and [blood pressure levels](#), and underwent echocardiograms or imaging tests to evaluate heart function.

- Compared with those who weren't malnourished, adults who survived early childhood malnutrition had:
- Higher [diastolic blood pressure](#) readings (the bottom number in a [blood pressure measurement](#))
- Higher peripheral resistance (a measurement of the resistance to blood flow in smaller vessels)
- Less efficient pumping of the heart

These factors all point to an increased risk for [high blood pressure](#), a major risk factor for heart disease and stroke. While severe malnutrition is most pervasive in developing countries, poverty and hunger linger in

the United States. According to the U.S. Department of Agriculture, 8.3 million children lived in food-insecure households in 2012. Food insecurity means that at times during the year, these households were uncertain of having, or unable to acquire, enough food to meet the needs of all their members.

Addressing malnutrition comprehensively could help prevent and manage high [blood pressure](#), Forrester said. "Such an investment in nutrition and general health will have huge public health dividends, including these longer-term risks of chronic heart and metabolic diseases that cost so much in human lives," he said.

**More information:** [Abstract](#)  
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Provided by American Heart Association

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