Immunoglobulin recognition of fecal bacteria in stunted and non-stunted children

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Video Byte

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Abstract

Undernutrition is responsible for nearly half of all deaths in children under five. It affects everything from long-term physical and cognitive development and susceptibility to disease to vaccine efficacy. Children who are undernourished often fail to regain height and weight, even after nutritional intervention. Scientists are now looking to non-dietary factors to explain why stunting continues after children consume nutrient-rich foods. A recent study examined the effects of chronic undernutrition on intestinal microbes. Using fecal bacteria from 200 children between two and five years old in Madagascar and Central African Republic, researchers found that undernourished children had a high proportion of bacteria bound to immunoglobulin A (IgA). IgA is a type of antibody that typically regulates host-microbe homeostasis in the intestine. But malnutrition allows pathogenic bacteria to proliferate, resulting in altered IgA recognition of intestinal microbes. While further studies are needed to determine the relationship between these pathogens, IgA, and overall health, the results provide insight into how undernutrition may have long-lasting effects on child growth and health by altering the intestinal microbiota.