

THE ALLERGY EPIDEMIC — A CONSEQUENCE OF WESTERN CIVILIZATION?

By Erwin Gelfand, MD

Across the developed world — from New Zealand to the United States and Europe — we have witnessed the emergence of an allergy epidemic. Hay fever, eczema, asthma, and food allergies, mostly unheard of a century ago, have more than doubled in prevalence in recent years.

What has caused this epidemic? It seems clear that something in our Western lifestyle is the culprit. People in developing countries suffer few allergies, while in developed countries allergies have increased in tandem with industrialization and the emergence of our current lifestyle. In all allergic diseases, there is strong genetic susceptibility. However, genes typically evolve over centuries and cannot explain this modern epidemic. Though industrialization has brought tremendous health benefits, allergies appear to have accompanied it as an unintended consequence.

For example, while advances in sanitation and vaccinations have dramatically reduced our exposure to infectious organisms, our immune systems may have been left poorly prepared and vulnerable to allergic responses. Nutritional options have vastly improved, but in parallel we have witnessed a major increase in obesity, which has been linked to inflammation and allergy. After parents were warned to stop dispensing aspirin to young children to avoid Reyes syndrome, did the alternative, acetaminophen, predispose those same children to asthma? The introduction of folic acid supplements during pregnancy, while significantly reducing birth defects, may also predispose infants to allergies.

Drugs alone will not control the allergy epidemic. The key is prevention, and the early years may be the best time for intervention. The challenge is to understand the underlying biology of seemingly innocuous events that predispose an infant's developing immune system toward an allergic response.

At National Jewish Health, we believe that a coordinated research effort can elucidate causes of the allergy epidemic and discover interventions necessary for prevention. Laboratory scientists here and at other institutions must unravel the details of the developing immune system, exploring the relationships between epigenetic changes, environmental exposures and allergy. Clinical researchers can translate these discoveries into safe interventions, such as alterations to children's diets or prenatal care.

As we work toward the next breakthrough, we encourage a commonsense approach to diagnosis and treatment. Appropriate testing to define which allergens may be problematic for you or your children is important, as is thorough consideration of any recommendations. Be proactive in your approach and work with your doctor to understand advances in diagnosis and treatments as they become available.

Science can transform lives. It has led to the many health benefits we enjoy today. Tomorrow's advances will come through sustained investment in basic and clinical science. Only then will new avenues open for preventing the unintended consequences of Westernization.

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