Research Summary: Allergies #1

As featured in Dr. Kenny Mittelstadt's video:
"How I Treat Allergies with Natural Remedies"
Date of Publication: 04/07/2026

Research Context:

This week's topic explores how allergies may be less about the trigger itself and more about how your body is responding to it. In the video, Dr. Kenny walks through a broader lens of immune tolerance, which is your body's ability to stay calm around everyday exposures like pollen, dust, or pet dander.

When that tolerance begins to shift, symptoms can show up more intensely, more frequently, or in patterns that feel unpredictable. This often lines up with what many people already notice in their own lives, like worsening symptoms during periods of stress, poor sleep, or digestive disruption. These patterns are not random. They are signals that your immune system may be under a higher overall load. Below are key studies that help connect these dots and show why focusing only on symptom relief can miss the deeper communication happening within the body.

Key Findings from the Research:

Study 1 (PMID 24726195):
Researchers studied young adults with allergic rhinitis, the classic pattern of sneezing, congestion, and itchy eyes often called hay fever. They found that acute stress changed how the immune system reacted during allergy skin testing. When stress levels increased, the immune response became more reactive, meaning the body responded more strongly to the same trigger. Anxiety seemed to amplify this effect even further. In real terms, this helps explain why your allergies can feel worse during busy or emotionally demanding periods, even if pollen levels have not changed much. Your body is not just reacting to the outside environment. It is also responding to your internal state. This study highlights that your stress response and immune response are closely linked and can influence how intense your symptoms feel.

Study 2 (PMID 38439599):
This 2024 review looked at the body's barrier systems, including the skin, gut lining, and respiratory tract, and how they work together to regulate immune responses. These barriers act like filters, deciding what gets into the body and how the immune system should respond. When these barriers are irritated or weakened, more unwanted signals can pass through, which may trigger stronger immune reactions. The study highlights that allergic conditions often involve more than one area of the body, not just the nose or sinuses. For example, someone with allergies might also notice digestive symptoms or skin sensitivity. This suggests that the body's protective layers are part of a connected system. When one area is under strain, it can influence others, helping explain why allergy symptoms sometimes feel widespread or inconsistent.

Study 3 (PMID 37418839):
This systematic review and meta-analysis examined how microbiome-based interventions influenced allergic rhinitis symptoms. Across multiple clinical trials, researchers found that supporting the gut microbiome was associated with improvements in symptom severity and quality of life. However, the results were not identical across all studies, meaning some people responded more strongly than others. This variation likely reflects differences in individual health status, baseline gut balance, and the specific strains or approaches used. In practical terms, this study supports the idea that your gut plays a role in shaping how your immune system reacts to allergens. It also highlights that there is no one-size-fits-all response.

Functional Medicine Connections:

Here is how these pieces fit together: your immune system does not operate in isolation. It is constantly receiving input from your stress response, your gut ecosystem, and the barrier surfaces lining your nose, lungs, skin, and digestive tract. These systems form a communication network that helps your body decide what is safe and what is not.

When these signals are balanced, your immune system can stay calm around everyday exposures like pollen or dust. When those signals become disrupted, the response can become more reactive.

When stress load is high, your body may shift into a more alert state, which can amplify immune responses. At the same time, if barrier surfaces become irritated or more permeable, they may allow more environmental inputs to reach the immune system. Changes in the gut microbiome can further influence how the immune system interprets these signals.

Taken together, this reflects a pattern of increased system load. Over time, this can reduce your tolerance to common exposures.

Practical Reflections & Takeaways:

Think about your own pattern: do your allergy symptoms tend to flare during periods of high stress, poor sleep, or digestive changes? Notice whether these shifts happen together or follow a predictable rhythm.

Pay attention to where your symptoms show up. Do they stay limited to your sinuses, or do you also notice patterns in your skin, energy, or digestion? These clusters can offer clues about how different systems in your body are communicating.
Reflect on consistency: are your reactions tied only to external triggers like pollen, or do they seem to vary based on how your body is doing overall? That variability often points to internal factors influencing your immune response.

These patterns are not random. They are your body's way of signaling where communication may be strained and where deeper investigation could be helpful.

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