



# Mechanism behind food intolerances with psychological correlates

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## BACKGROUND

Adverse food reactions are defined as abnormal reactions after ingestion of food. Various side effects are described as food aversion, which is food hypersensitivity, including food intolerance and food allergies, or the psychological avoidance of side effects due to Pavlov's conditioning. There are significant pathophysiological differences between food allergies and food intolerances that lead to different diagnostic strategies and treatment options, classified according to the immune base or non-immunity. The definition of food intolerance is a non-immune response that is usually induced by an acceptable dose of food or food ingredient and is responsible for most adverse food responses.

Food allergies are abnormal immune responses to food proteins mediated by immunoglobulin E (IgE), non-IgE, or mixed IgE/Non-IgE immunological mechanisms. The prevalence of food allergies varies, affecting 1%-2% of adults and less than 10% of children. In contrast, it is estimated that up to 20% of the population suffers from food intolerance. Although food intolerance is very prevalent around the world, it is often not easy to diagnose and it is necessary to understand various clinical symptoms such as the severity and timing of the onset of symptoms. This is further complicated by various mechanisms of food intolerance that may exist, from pharmacological (such as caffeine) to enzyme deficiency (such as poor lactose absorption) to nonspecific Gastrointestinal (GI) function.

Although food intolerance is estimated to affect up to 20% of the population, a complete understanding of diagnosis and management is complicated by the non-immunological mechanisms associated with various symptoms.

The mechanism behind food intolerance is considered one of the greatest enigmas in modern medicine. Because it's interdisciplinary modality shares immunological, environmental, and psychosomatic response patterns and characteristics, grouping and individualized approaches to disease classification, diagnosis, and treatment are very complex. The psychosomatic experience of food intolerant patients is demonstrated by a brief presentation of three studies. The first was a cross section. The second was positive and managed. The third was a double-blind, placebo-controlled trial using provocation with an active substance in comparison with a placebo. Both patients and referents were characterized by an interview and questionnaire-based scoring systems.

When either combined or kept separately, the results of these studies focus on the correlation between emotional disturbances of somatic and neuropsychiatric symptoms. It seems that food and chemical sensitive patients have higher scores for depression, fear, ranging, and defense. On the other hand, there was an agreement between diet history and provocation in 62% of cases. The next of-kin of the food intolerance subjects also had various diseases, increased immunoglobulin E levels and higher prevalence of allergies and infections. For the same patient, during childhood undifferentiated somatoform disorders were distin-

guished for major distress or trauma. In summary, both somatic symptomatology and self-reported psychological disturbances can be considered fairly weak documentations.

However, current experience in these fields may seem promising for further research. Next, it is necessary to emphasize the importance of the type of exposure and the type of disposition represented by immunological and/or psychological mechanisms, or a combination of both. Future studies should aim to subgroup patients through the use of improved diagnostic and clinical methods, assessment of organ susceptibility, and immunological and psychological tests.

### **Psychological Correlates of Food Intolerance**

The presence of food intolerance can affect the psychological well-being of the patient. Anxiety, depression, and physical symptoms are more common in patients with food intolerance than in controls. Several studies focusing on psychosocial correlations have

shown that food tolerance may be associated with youth, female gender, higher education, and Irritable Bowel Syndrome (IBS). In addition, food intolerance has been shown to overlap with IBS food aversion, which may also be important for food intolerance. In fact, if the intake of a particular food is consistent with psychological disturbance, post-food gastrointestinal symptoms can be seen and the aversion to that food can be learned.

Studies in the IBS population suggest that the need for better communication and a good relationship between physicians and patients improves symptom management. Therefore, this can be assumed to be successful in food intolerant patients. In addition, the presence of food intolerance associated with gastrointestinal (GI) symptoms may serve as a discussion of food refusal in patients with eating disorders. Considering the high prevalence of diet-related symptoms in patients with eating disorders, it is important for physicians to investigate the presence of eating disorders.