

FOOD PREFERENCES OF PATIENTS WITH CITRIN DEFICIENCY

Okamoto et al. *Nutrients*, 2021

After infancy, a hallmark symptom of citrin deficiency (CD) is a strong dietary preference towards foods high in protein and fat, while avoiding foods high in carbohydrates and sugars. This study by Okamoto and colleagues (Okamoto *et al.* 2021, *Nutrients*) investigated the food preferences and nutritional aspects of CD patients. The study aimed to understand how preferences for various foods and their nutritional composition differ between patients with CD and healthy subjects, providing insights into dietary management for this condition.



- 1. Study Design and Subjects:** The study involved distributing surveys to patients with CD from various medical institutions and the Patient Association of Citrullinemia in Japan. 70 patients diagnosed with CD aged 2–63 and 55 healthy subjects aged 2–74 years (mainly family members from the same households), participated. Patients were categorized by age and diagnosis stage.
- 2. Survey:** The survey collected data on food preferences using a scale ranging from dislike very much to like very much, including a "never had it before" option for specific food items across various categories. Treatment and nutrition information were also collected. Guardians helped fill out preferences for young children.
- 3. Protein, Fat, Carbohydrate (PFC) Energy Ratio in Food:** Nutritional components for 435 food items were calculated, and the PFC ratio was determined using the Standard Tables of Food Composition in Japan 2015. Cooking data and recipes were utilized to define ingredient content and amounts.

Summary of findings

- The results showed that the foods marked as “dislike” accounted for 36.5% in the patient group, significantly higher than the 16.0% in the controls.
- **The results also showed that patients clearly disliked foods with 20–24% (of energy) or less protein, 45–54% (of energy) or less fat, and 30–39% (of energy) or more carbohydrate.**
- For patients with CD, a strong preference for high-protein, high-fat foods like meat, eggs, and dairy, along with an aversion to sugar, is common.
- In comparison to healthy subjects, patients scored significantly lower in their preference for foods containing 20–24% or less protein, 45–54% or less fat, and 30% or more carbohydrates.
- **This dietary preference helps patients manage their symptoms and maintain a higher quality of life (QoL).** The survey revealed that these patients dislike a significantly higher percentage of foods compared to controls, especially those high in carbohydrates. The foods that patients prefer aligned with their nutritional needs, avoiding foods with less protein, less fat, and more carbohydrates.
- Female patients generally rated more foods as 'dislike' compared to males, correlating with dietary intake differences.

Take home message

For managing CD, it's important to focus on a diet high in protein and fat, and low in carbohydrates. Prioritize eating foods like meat, eggs, and dairy, while avoiding sugary foods and those high in carbohydrates. This dietary approach can help you manage your symptoms and maintain a better quality of life. Women with CD often dislike more foods than men, which is normal and reflects differences in dietary needs. Remember, these preferences are your body's way of helping you cope with your condition. Stick to this diet to help prevent symptoms and stay healthy.