"Let Food Be Your Medicine": the Dilemma of Lack of Access to Food Therapy in Celiac Disease

Francisco Echague · M. Inés Pinto-Sánchez

Farncombe Family Digestive Health Research Institute, McMaster University, Hamilton, ON, Canada.

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Case Presentation

Celiac disease (CD) is the only autoimmune condition in which the main trigger is known: gluten.[1] Thus, adherence to a strict gluten-free diet (GFD) is essential in people with CD for the recovery of the intestinal mucosa, symptomatic relief, and reduction of the risk of complications such as iron deficiency anemia, osteoporotic fractures, and intestinal cancer.[2] However, strict compliance with the GFD can be challenging due to social challenges and primarily due to the high cost of gluten-free foods.[3] Studies in different populations in North America and Europe report a price between 4 to 5 folds higher for gluten-free foods than those containing gluten.[4] This is particularly problematic for those who rely on these foods to maintain their health, as with CD.

Furthermore, the different government systems' financial support to subsidize the GFD's costs is variable and dependent on each country and region. Frequently, this reimbursement or financial support is insufficient, especially for those people with medium or low income, creating inequalities in access to treatment.[3] As a result, the lack of access to gluten-free foods (GFF) determines a decrease in adherence to the GFD,[5] which may partly explain the persistence of symptoms after starting treatment, at least in a proportion of patients with CD.

A multicenter study recently published in this journal[6] analyzed the cost and availability of various GFF in different populations in Argentina for the first time, evaluating their nutritional composition and its relationship with adherence to CD treatment. In this study, the cost of the basic basket of the person with CD was almost 70% higher than the general basic basket, which is related to a 250% increase in the cost of substitute GFF compared to their counterparts with gluten. Furthermore, GFF presented a deficiency of essential macronutrients and micronutrients, with 39% less protein and 68% less fibre and a decrease in iron and B complex vitamins compared to their counterparts with gluten. Another critical aspect evaluated in this study was the availability of GFF, which was significantly lower in stores than in supermarkets or health food stores. Consequently, one in four (25%) of CD patients surveyed reported that the high cost of GFF influences their adherence to GFD.

This study confirms the problem caused by lack of access to food, particularly in CD, in which food is their medicine. For celiac patients, access to GFD is necessary

Correspondence: *M. Ines Pinto-Sanchez*
Mail: pintosm@mcmaster.ca

for adequate control of their disease and its symptoms and to prevent complications. Lack of access to GFD determines a selection of foods rich in calories and poor in nutrients, a dietary pattern recognized as unhealthy and associated with metabolic syndrome and increased risk of cardiovascular disease.[4] This is how a GFD of inadequate nutritional quality may lead to higher rates of overweight and obesity[7] and to metabolic complications, including fatty liver disease, which is increasingly common in celiac patients.[8] The composition of the GFD and food selection largely contribute to this problem. Furthermore, ultra-processed GFF have a high content of fats, sugar and additives, which are associated with increased inflammation,[9,10] aggravating the issue beyond the control of CD and its complications.

The results of González *et al.*[6] allow us to identify critical points of the clinical and nutritional treatment in CD, and addressing these aspects is essential for adequate management and follow-up of CD patients. Hippocrates' often-quoted phrase, "Let food be thy medicine and medicine be thy food," has never been more relevant, but unfortunately, it is not always possible, especially in celiac patients. There is an urgent need to address the lack of access to GFD related to the high cost of GFD since this will impact treatment adherence and food selection, both crucial aspects in managing CD and preventing clinical, nutritional and metabolic complications.

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