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EDITORIAL

Adherence to a gluten-free diet: Can just a little bit be harmful?☆



Adherencia a la dieta sin gluten: ¿qué tanto es tantito?

As a clarification to readers unfamiliar with the Spanish phrase that is often used in Mexico “¿qué tanto es tantito?”, literally translated as “just how much is a little?”, the expression is not actually a question, but rather an affirmation signifying that “such a small amount of something won’t do you any harm”. Some persons presenting with celiac disease feel they don’t need to completely avoid gluten intake because they assume that the consumption of “just a little bit” of that protein, will not be harmful. Let’s take a look at how true such a perception is.

In celiac disease, there is an inflammatory immune response caused by the ingestion of gluten and related proteins in genetically susceptible persons; thus, the disease can be avoided by eliminating the consumption of foods and cereals that contain gluten!¹

The remedy seems simple, but strict adherence to a gluten-free diet is very difficult to carry out. On the one hand, the ubiquitous agent is found not only in foods but also in numerous industrialized products, such as toothpastes, cosmetics, and many commonly used medications. On the other hand, the high cost of gluten-free foods, as well as the restrictions such a diet imposes on the social life of its followers, limits the adherence to such dietary recommendations.²

A gluten-free diet is the only useful measure recognized to improve symptoms, reverse histologic alterations, and prevent complications in persons with celiac disease. Even though it has not been irrefutably demonstrated, said diet apparently reduces the risk for presenting with other autoimmune diseases or neoplasms.³ Therefore, evaluating the adherence to the gluten-free diet has become a fundamental measure in the care of celiac patients.

In the present issue of the *Revista de Gastroenterología de México*, Real-Deloy and Chamorro-Aguilera provide the results of a survey conducted on persons with celiac disease living in Paraguay. The aim of their study was to know the perceived adherence to dietary recommendations, utilizing the variables proposed by Leffler et al. that include psychosocial aspects and atypical symptoms. The responses of 371 persons were analyzed: 322 (87%) adults, 190 (59%) of whom correctly followed the dietary measures, and 49 (13%) children and adolescents, 36 (73%) of whom reported adherence to the diet. In total, 145 (39%) of the participants surveyed stated they did not adhere to a gluten-free diet. The only statistically significant factor associated with dietary adherence was that of belonging to the children and adolescent age group (73% of children and adolescents vs. 59% of adults).^{4,5}

Regardless of the selection bias inherent in this type of study widely utilized for evaluating dietary adherence, the authors provide valuable information on the characteristics of a group of persons with celiac disease in Paraguay and their adherence to a gluten-free diet. The results are similar to figures in reports from other countries, in which comparable methods were used.⁶ Nevertheless, self-reported adherence does not guarantee the absence of gluten from the diet. In a cross-sectional study on 80 patients with disorders related to gluten intake (56 with confirmed celiac disease), Ramírez-Cervantes et al. found inadvertent gluten consumption in 22 of the 29 patients that stated they strictly followed the dietary recommendations.⁷ Similar results have been reported by other authors, who, in addition to applying questionnaires, interviewed expert nutritionists, underlining the importance of having a multi-disciplinary team of specialists capable of detecting dietary transgressions and offering guidance in accordance with the possibilities of each setting.^{2,6}

Another aspect to consider is the fact that not all the structured questionnaires on the topic have been validated in Spanish-speaking countries, and certain questions are not

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applicable in places that lack health control regulations mandating the precise labeling of the gluten content in industrialized products.^{8,9} In addition, the scant information on celiac disease, as well as a lack of awareness about the condition, results in imprecise answers to many of the survey questions.

The quantification of IgA and IgG antibodies against deamidated gliadin peptides, IgA antibodies against tissue transglutaminase, or of endomysial antibodies has been proposed to resolve questionnaire weakness.¹⁰ Several studies have shown the usefulness of that strategy, but doubts have been raised by the results of more recent clinical trials that determined gliadin peptide excretion in urine or feces. Those trials clearly showed that even persons with normal antibody levels in blood that follow the dietary recommendations have contact with gluten. The test appears simple but the relatively short half-life of the gliadin peptides in urine and feces leans more towards demonstrating specific transgressions rather than being an instrument for evaluating adherence.^{11–13} In a recent study, the repeated absence of gliadin peptides in urine has been suggested to be correlated with the absence of intestinal villous atrophy, and those authors propose a surveillance strategy based on that laboratory test.¹⁴

Certifying the strict adherence to a gluten-free diet has been and continues to be a true challenge. In daily clinical practice, the application of questionnaires, such as those used by the authors described herein, as well as frequent interviews with expert nutritionists, are a practical, accessible, and inexpensive alternative that can be complemented with the determination of serum antibodies against deamidated gliadin peptides, relegating biopsy of the duodenal mucosa to that of a last option. Importantly, anatomic restitution of the intestinal villi is a slow process and is not achieved in a considerable number of patients.¹⁵

What appears to be clear from the studies that have evaluated adherence to the gluten-free diet, is that in some celiac patients, small amounts of gluten (“a little bit”) are tolerated with no problems, whereas in others, that tiny quantity, established as 20 ppm per day (<20 grams/day), can perpetuate the immune-inflammatory process.³

As long as the precise amount of “a little bit” is not established, we must recommend that all persons with celiac disease strictly maintain a gluten-free diet.

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Conflict of interest

The authors declare that there is no conflict of interest.

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