STUDY OF THE IMPACT OF NUTRITIONAL STRATEGIES ON TOXIC FRACTIONS OF GLUTEN

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Celiac disease (MC) is caused by the improper reaction of T-helper lymphocytes to the gluten contained in the food consumed. Multiple studies targeting the immune response to gluten have shown that gliadin, the alcohol-soluble glycoprotein fraction of gluten, is responsible for the adverse reaction to gluten. 4 fractions of prolamine were identified: α-, β-, γ- and ω. Form α is thought to contain the most active epitopes for the immune system and appears to be primarily responsible for toxicity. In MC, nutritional therapy is the only unanimously accepted treatment by the medical community and consists of an absolutely rigorous gluten-free diet, which must be strictly followed for life.

The aim of this paper is to analyze alternative strategies to ensure the nutritional security of people with gluten-related disorders.

To conduct this study, the literature on the PubMed and Crossref search engines was analyzed, using the Prisma flow chart. The results of the study highlighted several alternative therapeutic strategies for ensuring food safety in the gluten-free diet, focused on various areas of research: DNA bioengineering, enzyme therapy, biotechnological methods of food processing etc.

The administration of oral proteases capable of detoxifying ingested gluten and new food fermentation technologies using bacterial-derived endo peptidases are promising strategies, and research on identifying new solutions to reduce gluten toxicity is ongoing.

Keywords: gluten-free diet, celiac disease, nutritional strategies, food security

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