

STATISTICAL RESEARCH ON THE CORRELATION BETWEEN CELIAC DISEASE AND OTHER AUTOIMMUNE DISEASES

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Abstract

Number of people currently suffering from celiac disease is on the rise. The primary goal of this study is to statistically determine the correlation between celiac disease and the occurrence of other autoimmune diseases (Hashimoto's thyroiditis, rheumatoid arthritis, multiple sclerosis, lupus, psoriasis, etc.) in the representative sample that was included in this study.

The research was conducted by the Faculty of Food Technology and Nutrition at the University of Tetovo, VT Diet Club - Bitola, and the Association of Celiacs - Gevgelija. The research was conducted in the period from 01 April 2023 until 30 April 2023 by using an online questionnaire. The research was conducted on a representative sample of 110 subjects suffering from celiac disease aged 3 to 68 years - 90 women and 20 men. Data on minors who were included in this study were obtained from their parents - guardians. As a statistical method of work student's t-test is used to test the significance of the difference between two proportions and to determine whether there is an association between celiac disease and other autoimmune diseases from which the subjects suffer.

The results indicate that 64.5% of the respondents suffer only from celiac disease, while 35.5% of the respondents suffer from some other autoimmune disease in addition to celiac disease. Since the obtained value for $t = 3.05$ is greater than the table value $t = 1.982$ for $n = 108$, and $p < 0.05$, it is concluded that the difference between the proportions in the two groups is significant. In this case, the working, i.e. alternative hypothesis is accepted that the celiac disease from which the subjects suffer and the intake of gluten are one of the main reasons that led to the appearance of other autoimmune diseases in the subjects.

From this study it can be concluded that celiac disease is a risk factor for the occurrence of a large number of other autoimmune diseases, so celiac disease is a very important disease to be promptly diagnosed and timely start with the application of gluten-free diet in order to improve the health condition of patients and to prevents the occurrence of other autoimmune diseases.

Key words: *Celiacia, Gluten, Autoimmunity, Disease, Diet.*