

Streszczenie w języku angielskim

Epilepsy is one of the most common diseases of the nervous system, characterized by a pathological and persistent tendency to recurrent seizures. A significant problem is the comorbidity of other diseases, including diet-related ones. Patients with epilepsy have excess body mass, more frequent dyslipidemia, and mineral and vitamin deficiencies, including vitamin D3 deficit. Research also shows that people with epilepsy are often averse to physical activity, which results, among others, for fear of seizures. Knowledge about the nutritional status, diet and lifestyle of people with epilepsy is limited, which encourages further, more detailed research in this field.

The main aim of this study was to assess the concentration of 25-hydroxyvitamin D and the parameters of lipid profile in the serum of epilepsy patients in relation to the diet, nutritional status and level of physical activity. In order to better understand the nutritional status of

epilepsy patients, the current scientific literature was analyzed and the results were published in the form of a review (Publication No. 1).

The study included 60 epilepsy patients aged 18-73 years and 70 healthy volunteers matched according to age, sex and Body Mass Index (BMI). During the study, medical information was collected and a detailed questionnaire concerning eating and lifestyle habits was completed by the epileptic and control participants. The International Physical Activity Questionnaire (IPAQ-S) short form, the Polish language validated version, was used to assess the level of physical activity in epileptic and control participants. Body composition was assessed using the bioelectric impedance method. Venous blood samples were collected and the lipid profile and concentration of 25-hydroxyvitamin D3 were determined.

Both the study and control groups had higher levels of LDL cholesterol compared to current guidelines for the management of dyslipidemia in the European population. Compared to healthy volunteers, men with epilepsy had a significantly higher percentage of body fat. In patients with epilepsy, a significantly lower serum concentration of 25 (OH) D3 and a significant positive correlation between the level of physical activity and the concentration of vitamin D3 were observed. Epilepsy patients spent more time during the day sitting. Compared to healthy people, epileptic patients consumed cottage cheese, fruit, legume seeds, nuts and seeds, sugar, honey and sweets, vegetable and fruit- vegetable juices, coffee, tea, mineral water and alcohol and more sweetened fizzy drinks less often. In contrast, they consumed sugar-sweetened soda more often. Their diet, compared to the diet of control group, provided less vitamin C, B3 and potassium, and more fat and sodium. Low intake of folic acid, vitamin D and calcium was observed in over 80% of epileptic patients. A similar tendency was observed in the control group.

Some elements of the diet, lifestyle and nutritional status of epilepsy patients may contribute to an increased risk of coexisting cardiovascular disease. Compared to healthy people, they spent more time sitting during the day, had lower serum levels of vitamin D3, and their diets provided less vitamins B3, C and potassium, and more fat and sodium. Additionally, men with epilepsy had a higher percentage of body fat compared to men in the control group. The obtained results indicate the need to provide patients with epilepsy with comprehensive medical care, including nutritional counseling and education in the field of physical activity.