

Crohn's disease (CD) and ulcerative colitis (UC) are the main representatives of inflammatory bowel diseases (IBD), a group of chronic, immune system-mediated inflammatory diseases of the gastrointestinal (GI) tract. Although CD and UC are clinically distinct diseases, both may demonstrate common symptoms, which include: abdominal pain, vomiting, diarrhea, rectal bleeding, and weight loss. Moreover, IBD are characterized by extraintestinal manifestations (EIMs), such as arthritis, pyoderma gangrenosum, primary sclerosing cholangitis, anemia, uveitis and non-thyroidal illness syndrome (NTIS).

The main objective of studies performed currently worldwide is to identify risk factors for developing IBD. It has been suggested that circadian rhythm disorders, as well as the quantitative and qualitative disorders of sleep may cause an imbalance in the immune profile and lead to the IBD development. Human circadian rhythm and sleep time is determined by various factors, i.e.: the light, meals or social activities.

From a scientific point of view, different genes and disorders of the immune system may affect the circadian rhythm. Because of genetic disorders, the immune cells secrete many molecules that may be responsible for the IBD development.

The course of IBD is associated with high costs of complex treatment, and significant economic consequences for the society. For these reasons, it is important to develop new diagnostic and therapeutic possibilities.

Our project aims to confirm an innovative hypothesis about the relationship of the circadian rhythm abnormalities and the course of IBD. Furthermore, it will indirectly answer the question whether the treatment of sleep disorders, both psychologically and pharmacologically should become a new tool for the IBD treatment. This comprehensive and individual approach can be successful and highly appreciated by patients with IBD.

The discovery of the relationship between sleep disorders and the course IBD would be a breakthrough. Sleep is an integral function of human life and shall our hypotheses be confirmed, we will be able to help several IBD patients. Perhaps in the future we will be able to control the course and severity of the disease by affecting the daily sleep.

The reason for our focusing on the issue is our daily work with people suffering from IBD. We hope that our commitment and passion can make the life of the patients better.