

The COVID-19 outbreak has shaken European societies in health as well as in economic and social terms. S. Žižek (2020) describes this situation as a triple crisis. At the moment when the main outbreaks of the epidemic in Europe are fading out, it cannot be clearly stated whether we are observing the beginning of the end of the pandemic or it is only the end of the beginning and we are still facing serious health and social repercussions of the epidemic and actions taken in connection with its eradication. The specificity of SARS-CoV-2 infection is the high frequency of scarcely or even a-symptomatic course. People who did not feel any discomfort could often be an unconscious source of the spread of the disease, making it difficult to conduct an in-depth epidemiological procedure. Therefore, published data on the number of infections most likely do not fully reflect the frequency of infection in society. The SARS-CoV2 virus did not appear until the end of 2019 and we do not know what distant consequences this infection may entail. We also do not know whether the asymptomatic or low-symptomatic course will affect long-term health consequences. In the light of current knowledge, people at risk of severe COVID-19 disease were patients with diabetes or cardiovascular disorders, however, most published papers are observational and do not fully reflect the full picture. From an epidemiological and public health perspective, a key to predicting health consequences as well as assessing future potential outbreaks of similar viruses would be to determine actual morbidity in society as well as the long-term consequences of COVID-19 disease or asymptomatic infection. At the same time, it should be recognized that health and social consequences are not limited to the impact of the virus, but may also result from actions taken by the state to limit the spread of the disease. Some of them, such as limiting planned procedures or introducing teleconsultations into the healthcare system, will primarily affect the health of the population, others - stopping the work of some enterprises or limiting the possibility of meetings, most likely affected social relationships, both professional, neighbourly and family (e.g. increase in domestic violence). In addition, people were flooded with information about the health consequences of the infection, the lockdown created an atmosphere of danger, which caused many people not only to limit their social contacts, but also created fear of contact with health care, which could lead to serious health consequences. Already, some countries have reported a significant reduction in the number of people who are admitted with symptoms of myocardial infarction in hospital, and an increase in the incidence of community-acquired sudden cardiac arrests, which are often caused by a untreated heart attacks. The goal of this project is to assess the actual frequency of SARS-CoV-2 infections in the local community, based on an assessment of the presence of antibodies against this virus in the IgG class, compared to official epidemiological data. Moreover we aim to find genetic, clinical and social factors that may affect the course of COVID-19.

Three populations will be analyzed here: patients previously hospitalized for COVID-19, general, corresponding to the inhabitants of Białystok and high-risk population - patients with coronary artery disease or diabetes. These people will also be examined in detail in terms of their social behaviour, mental state and response to the epidemic they are in. Comparing, using modern statistical approach as well as machine learning algorithms, patients who were hospitalized for COVID-19 with people who had antibodies, but did not report to the hospital during the epidemic and were not tested in this direction, as well as with healthy people, could allow to find genetic factors responsible for susceptibility to infection and the symptomatic course of the disease. At the same time, by thoroughly assessing the health of people who have suffered from COVID-19, as well as those with only positive antibodies (i.e., asymptomatic course), we will be able to assess the distant health consequences of contact with the SARS-CoV-2 virus. A special advantage of this study is having a detailed health assessment of several hundred Białystok residents, among which we anticipate a 7-15% percentage of people with a positive antibody titer, so that we can refer their health to pre-epidemic assessment.