Summary of the degree of Master No., **17919**. **Immunology,** Faculty of Veterinary Medicine, Urmia University.

The academic year: 2023-2024

Author: Zahra rahdan

Title: Investigating the relationship between the antibody titer against SARS-COV-2 and age, sex, underlying disease and vaccine in patients infected with Covid-19

Summary:

In December 2019, an epidemic of a new virus occurred in the city of Wuhan, Hubei Province, China, which was later named SARS-CoV-2. On March 11, 2020, the World Health Organization announced that the virus has caused a worldwide pandemic. The corona virus, the cause of the covid-19 disease, is active in the respiratory system of a person and causes severe inflammation, which in many cases leads to death. In this research, sampling was done from 10 human samples located in Taleghani Hospital in Urmia, and the basis of the initial diagnosis was the positive result of PCR or CT scan. The statistical population was randomly selected from among people with any age group among those infected with the corona virus who referred to the Covid-19 test center in Taleghani Hospital in Urmia. The PCR test was the basis for confirming the infection of people with Covid-19. The people in question were examined for the presence of underlying diseases. This study shows that women have higher antibody titers. Women produce more antibodies in response to vaccination and this is due to biological and hormonal differences. In the case of viral infections, women's antibody response is better because of female hormones and the immune system is different from men.

Underlying diseases such as diabetes, heart diseases, lung diseases, and autoimmune diseases can affect the immune response to Covid-19. These people may produce lower titers of antibodies or their immune response may develop later. The role of obesity in the epidemiological characteristics of patients with covid is important from middle age onwards. Because it can have destructive effects on the immune system and interfere with the course of immune responses. This study suggests that people with lower antibody titers may experience more severe disease.

The severity of the disease and mortality from this disease are significantly higher in men than in women.

Keywords: antibody titer, SARS-COV-2, age, underlying disease