
Evaluation of prevalence of side effects and vaccine breakthrough Infection after COVID-19 vaccination and factors affecting it in health personnel of Imam Khomeini hospital In Ardabil

Abstract

It is necessary to study the severity and type of side effects of vaccines as well as the rate of re-infection with COVID-19, due to the existence of genetic differences in different populations of the world after the implementation of a general vaccination plan. In addition to genetic differences, gender, age, the presence of underlying diseases, fear and worry about the side effects of the vaccine and the type of vaccine can cause various complications. In the present study, demographic characteristics, sports activities and nutrition, underlying diseases, period of involvement with the COVID-19 pandemic, side effects of the vaccine after the injection of the first, second and third dose of injection, as well as the percentage of infection to COVID-19 before and after vaccination of Imam Khomeini Hospital staff in Ardabil were evaluated. The data were collected using a valid and reliable questionnaire and analyzed using SPSS version 26 software and using relevant statistical methods. Based on the results, 77.2% of the studied population were women with an age range between 27 and 55 years. About 43.6% of people had a body mass index greater than 25. More than 87% of the studied population have been working in the department dedicated to hospitalization of COVID-19 patients since the beginning of the COVID-19 pandemic. 69.1% of them have had positive PCR test or symptoms of COVID-19 before the first injection of the vaccine. The types of injected vaccines included AstraZeneca, Sinopharm, SputnikV, Bharat, Barekat, SpicoGen and PastoCovac. 67.1% of the studied subjects felt worried and afraid of the side effects of the vaccine before the injection. The most common systemic side effects after vaccine injection were: fever, chills, myalgia, weakness and fatigue, and headache. The most common local side effects reported was injection site pain. The effect of demographic factors and underlying diseases on re-infection with COVID-19 and vaccine side effects was positive and significant in some cases. After the injection of the first dose of the vaccine, the number of severe cases decreased from 30.9% to 10.7%, which indicates the effectiveness of the vaccination. The least re-infection was related to people with good sports activities compared to people who were less active (9.6% versus 59.6%). The highest rate of re-infection with COVID-19 between the first and second doses of the vaccine was related to Sinopharm, SputnikV and AstraZeneca. The effect of the type of vaccine on the side effects of fever and chills was statistically significant, but it was non-significant on myalgia and pain injection. In terms of severity of fever, Astrazenka and Barekat were placed in the same group with the highest values of 56.96 and 85.00, respectively. A very significant positive correlation (0.878%) was observed between the fever and chills. The cluster analysis grouped the vaccines into two clusters based on the severity of side effects. The highest re-infection (82.7%) was in the age group under 40 years old.

Keywords:

Vaccines Side effects- Breakthrough infection after vaccination- Covid-19-Efficacy