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Editorial

Significant Reduction in Hospitalization Due to COVID-19 as a Medium-term Outcome Following Coronavirus Vaccination in Iran

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The coronavirus outbreak, first reported in December 2019, affected all countries, including Iran. Iran is one of the countries with high reported mortality due to Corona Virus Disease 2019 (COVID-19) (1,2). The first case of the disease in Iran was reported on February 19, 2020 (2). The highly contagious virus has spread across the country, with the highest number of deaths per day reported these days (3).

From the beginning, various ways were proposed to overcome this emergency crisis, including quarantine and social distancing, each with its own limitations and problems (2). Sparks of hope were formed with the news of the production of vaccines, and now the solution that many countries have taken to counter is the mass vaccination against COVID-19 (4). Vaccines are new products that have been approved as Emergency Use Authorization (EUA). These products should be evaluated in terms of effectiveness and adverse effects in their post-marketing phase according to World Health Organization (WHO) guidelines like other new medicines (4,5). Tracking the effectiveness and safety of the coronavirus vaccination program has also been done in Iran, and a limited report of its medium-term outcomes has been published as a missive (6).

The published letter includes the medium-term outcomes of the study of active surveillance of commonly used vaccines complications and adverse events in Iran, which is a study consistent with the design of Cohort Event Monitoring (CEM) using the latest WHO guidelines (6,7). CEM is a prospective observational cohort study to evaluate the safety of a new medicine used in public health in its early post-marketing phase (7). The study is commissioned and supported by the Deputy of Research and Technology و Ministry of Health and Medical Education of Iran. It has been stated that the purpose of the early release of the results in a limited way is to increase public confidence in the country's vaccination program (6).

According to the published medium-term outcomes report, this study is conducted in seven Iran cities, and 40,798 people, about one-third of the required sample volume, have entered the study until the report's publication. It should be noted that the text has stated that the reason

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for the slow sampling rate is the access to vaccines. 54.1% of the 40,798 patients received the Sinopharm vaccine, 31.8% received the AstraZeneca vaccine, 11.2% received the COVIran Barekat vaccine, and 2.6% received the Sputnik V vaccine. Sinopharm, COVIran Barekat, and Sputnik V vaccines recipients for up to 17 weeks after the second dose, and the AstraZeneca vaccine recipients for up to 25 weeks after the second dose, are actively monitored for significant vaccine-related complications, COVID-19 infection, hospitalization, and death (6).

So far, 1349 out of 40798 people with a mean age ±standard deviation of 57.2±18.8 years have been diagnosed with COVID-19, of which 180 patients (12.3%) have been hospitalized. It has been reported that 48.1% of the patients were male. These results are descriptive, and their relevance analyzes have not yet been published. The report, stating the incidence of hospitalization by the immune status of vaccinated individuals (defined from the day of receiving the first dose), calculated the effectiveness of vaccination in preventing hospitalization due to COVID-19 at 88.6% (6).

The letter reported a significant reduction in hospitalizations due to COVID-19 following vac -cination. This report was written from a published letter, which certainly has limitations. We hope the final publication is comprehensive.

Keywords: Cohort study, COVID-19 pandemic, Mass active immunization, Safety, SARS-coV-2

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The authors had no higher access to the data than the public, and the manuscript was written from a published letter. Therefore, due to lack of access to data and methods of collecting them, it was impossible to approve or reject the report, perform analysis, *etc*. so the authors are not responsible. This paper did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of Interest

The authors have no conflict of interest.

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