

IMMUNIZATION – CHALLENGES AND OPPORTUNITIES

ASSOCIATION OF VACCINATION STATUS WITH HOSPITALIZATION AND DEATH OUTCOMES IN NOTIFIED CASES OF COVID-19

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Background: Serbia provided five different COVID-19 vaccines for all population and foreign citizens residing temporarily in Serbia, including the updated bivalent vaccines. More than 56% of adult population was vaccinated, while 1/3 of population received a booster dose of the vaccine. According to law, cases of COVID-19 must be notified to the Public Health Service information system as of 1 January 2022.

Aim: The aim of this study was to analyze association between reported vaccination status and hospitalization and death outcomes in notified cases of COVID-19 in Serbia.

Methods: We have retrieved records of all cases of COVID-19 notified electronically to the Public Health Service between 1 January 2022 and 30 June 2024. After removing duplicates and records with errors in data, 471 285 individual cases remained out of which 334 419 had information about vaccination status and those cases were included in further analysis. Results have been statistically tested using the R software (version 4.3.3.).

Results: COVID-19 was notified in 164 898 persons that received at least one dose of vaccine against this disease, while 169 521 cases were unvaccinated. Out of all hospitalized patients, statistically significantly biggest percent were among unvaccinated compared to persons vaccinated with at least one dose ($p < 0,001$). Similarly, death outcome was reported statistically significantly more often in unvaccinated patients than in those that were either completely or incompletely vaccinated ($p < 0,001$).

Conclusion: According to the analysis of hospitalization and death outcomes in notified cases of COVID-19, vaccination had protective effect against severe disease and death.

Keywords: COVID-19, vaccination, notification, hospitalization, death outcome