COVID-19 vaccine safety among older adults aged 65 and above: A Canadian Immunization Research Network (CIRN) study

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Summary

Background

- Senior Canadians are particularly vulnerable to COVID-19 disease related complications, and even death.
- Over 7 million Canadians are ≥65 years of age, and are prioritized for COVID-19 vaccination.
- The Canadian National Vaccine Safety Network (CANVAS) has implemented active safety surveillance in older adults for COVID-19 vaccines from December 2020-August 4, 2022.
- CANVAS can detect events occurring in older adults at a rate ≥ 1/10,000

Aim

This study aimed to determine whether the first or second dose of COVID-19 vaccine was associated with serious health events (emergency department visit and/or hospitalization) among older adults.

Methods

- Both vaccinated and unvaccinated participants ≥65 years of age were recruited from Alberta, British Columbia, Nova Scotia, Ontario, Quebec, Yukon and Prince Edward Island and followed up for the occurrence of health events seven days after dose 1 and dose 2 or a seven-day period for unvaccinated participants.
- Multivariable Poisson regression estimated serious health events associated with COVID-19 vaccines, adjusting for age, sex, health status, province, previous COVID-19 infection and health event after dose 1 (dose 2 analysis only)
- Same control group was used to compare with vaccinees for dose 1 and 2

Results

- 182,367 older adults completed the dose 1 survey
- 110,615 older adults completed the dose 2 survey
- 2,932 older adults completed the control survey
- COVID-19 vaccination (any type) was not associated with an increased risk of serious health event in the week following vaccination, compared to unvaccinated older adults

Conclusions

Among older adults, the rates of serious health events following COVID-19 vaccination were very low and not associated with emergency department visit or hospitalization.

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