Paxlovid associated with lower risk of hospital admission

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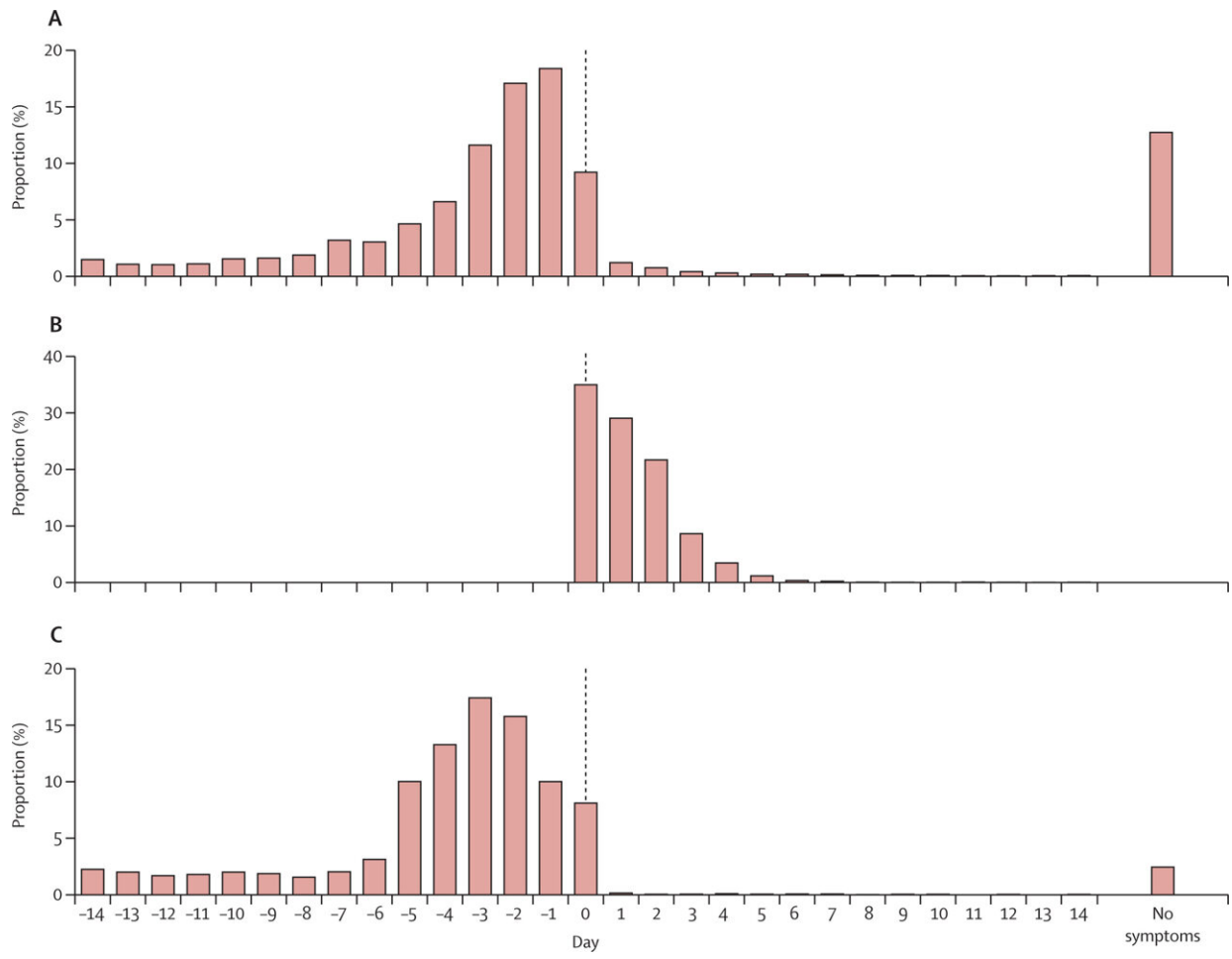

Timing of symptom onset (A) and nirmatrelvir–ritonavir dispensing (B) relative to date of SARS-CoV-2 testing, and timing of symptom onset relative to data of nirmatrelvir–ritonavir dispensing (C)In (A) and (B), day 0 was the date of the index positive test for SARS-CoV-2, whereas in (C) day 0 was the date when nirmatrelvir–ritonavir was dispensed. Our analyses include only recipients of

nirmatrelvir–ritonavir who received a positive outpatient PCR test for SARS-CoV-2. Credit: *The Lancet Infectious Diseases* (2023). DOI: 10.1016/S1473-3099(23)00118-4

A Kaiser Permanente study confirms the benefit of nirmatrelvir-ritonavir, also known as Paxlovid, as an early-stage treatment to prevent hospitalization for people with mild to moderate COVID-19, regardless of prior immunity or age.

"Among Kaiser Permanente members in Southern California who tested positive for coronavirus infection, receiving Paxlovid within 5 days of the start of COVID-19 symptoms was associated with substantial reductions in the risk of hospital admission or death," said Sara Tartof, Ph.D., the senior author of the study and an epidemiologist with the Kaiser Permanente Southern California Department of Research & Evaluation. "These findings are even more notable because in this population with high levels of vaccination, we still see additional benefits of this treatment."

Paxlovid is an oral therapeutic drug aimed at reducing the risk for severe outcomes of coronavirus infection. It is manufactured by Pfizer Inc. It currently has emergency use authorization by the U.S. Food and Drug Administration for adults and children 12 and older who are at high risk for progression to severe COVID-19.

The study analyses included patients with positive results from coronavirus tests undertaken in outpatient settings between April 8 and October 7, 2022. In the study population, 7,274 people had received Paxlovid, and 126,152 had not received Paxlovid. It was a time dominated by the omicron subvariants BA.2, BA.4, and BA.5. Overall, 86% of the 133,426 participants had received 2 COVID-19 vaccine

doses, and 61% had received 3 or more.

The study found:

- Effectiveness in preventing hospital admission or death within 30 days after a positive test was 80% for people who were dispensed Paxlovid within 5 days after symptom onset.
    - Within the subgroup of patients who were dispensed Paxlovid on the day of their positive COVID-19 test, effectiveness was 90%.
    - Effectiveness declined to 44% for patients who received Paxlovid 6 or more days after symptom onset or for cases not experiencing acute clinical symptoms.
    - Overall, for patients who received Paxlovid at any time within their clinical course, effectiveness was 54%.
- Effectiveness in preventing intensive care unit admission, mechanical ventilation, or death within 60 days after a positive COVID-19 test was 89% for patients who were dispensed Paxlovid 0 to 5 days after symptom onset, and 84% for people who were dispensed Paxlovid treatment at any time.

"Our data showed that the sooner people take Paxlovid upon symptom onset, the more effective the medication can be," Tartof said. "However, there is still some benefit to treatment 6 or more days after symptom onset. People should talk with their doctors about the best approach for them."

The research is published in *The Lancet Infectious Diseases*.

More information: Joseph A Lewnard et al, Effectiveness of nirmatrelvir–ritonavir in preventing hospital admissions and deaths in people with COVID-19: a cohort study in a large US health-care system,

The Lancet Infectious Diseases (2023). DOI: 10.1016/S1473-3099(23)00118-4

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