Abstract

Effectiveness of Vaccination: Hospital Admission and Length of Stay

Tareq Aldamen, MD; Majed Asad; Mahmoud Yaqoub; Mohammad Alhawaratt; Ashraf Aqel; Mohammad M Asad

Jordan's Ministry of Health, Amman, Jordan

Corresponding Author:
Tareq Aldamen, MD
Jordan's Ministry of Health
Amman-Dahiat Al Rasheed
Amman
Jordan
Phone: 962 796714196
Email: tareq1840@gmail.com

Abstract

Background: COVID-19 vaccinations were first met with public hesitancy. There are some debates about the vaccines' effectiveness in reducing hospital admissions or length of stay.

Objective: We aim to compare the effectiveness of different vaccine statuses and types with hospital admissions and length of stay.

Methods: Data related to hospital admissions, length of stay, the need for intensive care, and vaccination data were obtained from the Jordanian Ministry of Health.

Results: A total of 17,182 hospital admissions were recorded from February 2, 2021, the earliest date a vaccinated individual who has passed the 20-day mark on the first dose was admitted with relation to COVID-19, to August 15, 2021. The mean age admitted was 53 years. From all those who were admitted, the unvaccinated group was the majority in both overall admissions (93.7% with the length of stay of 6.9 days for older groups and 8.3 days for the younger) and intensive care unit admissions for both the older and younger age groups (91.23% and 93.3%, respectively), followed by those fully vaccinated (3.4% with the length of stay by vaccine type: Pfizer 4.9-6.1 with 115 admissions; AstraZeneca 10.8-5.1 with 26 admissions; Sinopharm 5.3-6.7 with 440 admissions; Sputnik 2-4 with 4 admissions) and those with only the first dose (2.5% with the length of stay by vaccine type: Pfizer 7.05-7.25 with 133 admissions; AstraZeneca 7.73-7.53 with 109 admissions; Sinopharm 6.5-7.9 with 253 admissions; Sputnik 4 with 1 admission). The time between the vaccination and admission was noticeably longer after the second dose of each vaccine compared to only the first dose with the exception of AstraZeneca (Pfizer 35.4-35.73 to 46.8-79.85; AstraZeneca 48.3-50.7 to 33.4-43.4; Sinopharm 22.65-24.86 to 54-62.9; Sputnik 28 to 99.5-101.5).

Conclusions: The study showed a lower admission and shorter stay at the hospital for those who are vaccinated, indicating the ability of vaccines to reduce the burden on the health care system.

(iproc 2022;8(1):e36363) doi: 10.2196/36363

KEYWORDS

Jordan; COVID-19; hospital admission; ICU; intensive care unit; vaccination; length of stay

Multimedia Appendix 1

Admissions to hospitals due to COVID-19 in Jordan from February 2021 to August 2021 in selected hospitals by vaccination status and type of vaccine. ICU: intensive care unit.
[PNG File , 372 KB-Multimedia Appendix 1]

XSL•FO
RenderX

Edited by Y Khader; this is a non–peer-reviewed article. Submitted 12.01.22; accepted 17.01.22; published 03.02.22.

Please cite as:
Aldamen T, Asad M, Yaqoub M, Alhawaratt M, Aqel A, M Asad M
Effectiveness of Vaccination: Hospital Admission and Length of Stay
iproc 2022;8(1):e36363
URL: https://www.iproc.org/2022/1/e36363
doi: 10.2196/36363
PMID:

©Tareq Aldamen, Majed Asad, Mahmoud Yaqoub, Mohammad Alhawaratt, Ashraf Aqel, Mohammad M Asad. Originally published in Iproceedings (https://www.iproc.org), 03.02.2022. This is an open-access article distributed under the terms of the Creative Commons Attribution License (https://creativecommons.org/licenses/by/4.0/), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work, first published in Iproceedings, is properly cited. The complete bibliographic information, a link to the original publication on https://www.iproc.org/, as well as this copyright and license information must be included.

XSL•FO
RenderX