Post-vaccination SARS-COV-2 Infections among Vaccinated Individuals tested at the UNAM Molecular Diagnostic Laboratory, June 2021- May 2022

P2-G16

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Being fully vaccinated accounted for 51.3% of PVSI. The *survival* rate was statistically significant ($p < 0.05$). Age, sex, and number of doses were significant *factors* associated with PVSI.

BACKGROUND

- To curb COVID-19, vaccines were rolled out, however, post-vaccination SARS-CoV-2 infections (PVSI) do occur
- Vaccination statistics: targeted population (1 779 271), 598 552 (33.6%) received first dose, while 519 712 (29.2 %) are fully vaccinated
- An observation on post-vaccination SARS-CoV-2 cases raised concerns at UNAM-MDL
- Paucity of post-vaccination infection data may have created blind spots in assessing the true impact of the virus
- Study aimed to determine the occurrence and factors associated with PVSIs

METHODS

- A retrospective cohort study
- COVID-19 Case Investigation Forms (CIFs) were reviewed
- Data of 9,261 vaccinated individuals were reviewed; 5,389 (58.2%) were included
- The cohort was divided into two; Group A (Positive) and Group B (Negative)
- Genome sequencing data of positive samples (Ct ≤ 30) was reviewed to determine the variants
- Statistical Package for the Social Sciences (SPSS) v.26
- Statistical analysis; descriptive, logistic regression, Kaplan-Meier survival curve, at 95% CI, and p-value < 0.05
- Adherence to ethical principles and obtained approvals

RESULTS

- Group A had 538 (10%)
- The PVSIs rate was 99.8 per 1,000 vaccinated population (v.p)
- A median age of 40 years (14-89 years old)
- Males were the majority with 4,016 (74.5%)
- Attack rate; 7.6% for males and 16.8% for females
- Mortality rate of 1.1 per 1,000 v.p
- Most received Sinopharm 2,399 (44.5%)

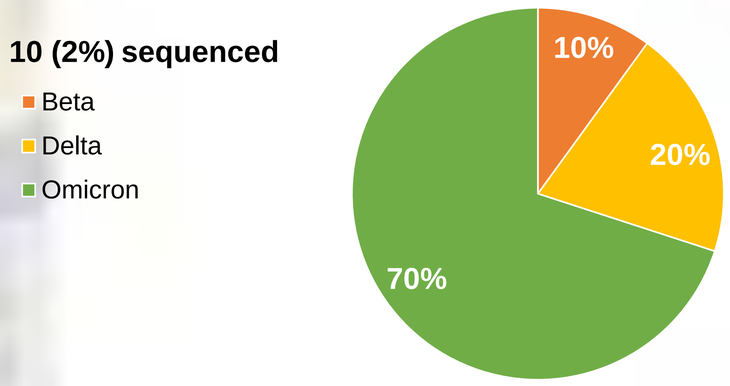

Figure 1: Variants of vaccinated individuals tested at UNAM-MDL June 2021-May 2022

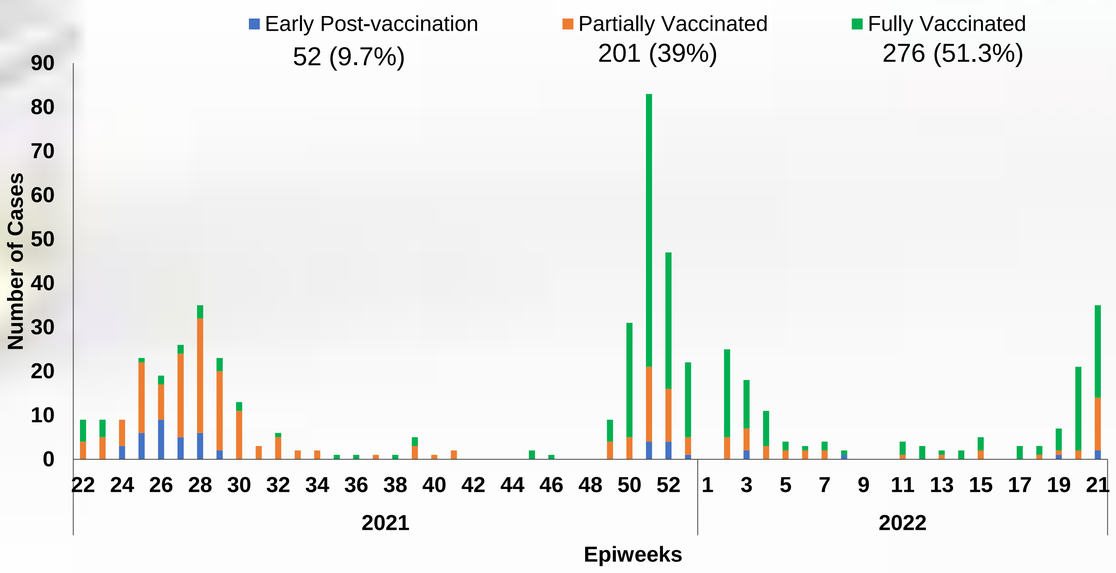

Figure 2: Distribution of PVSI by time among vaccinated individuals tested at UNAM-MDL June 2021-May 2022

RESULTS CONTINUED

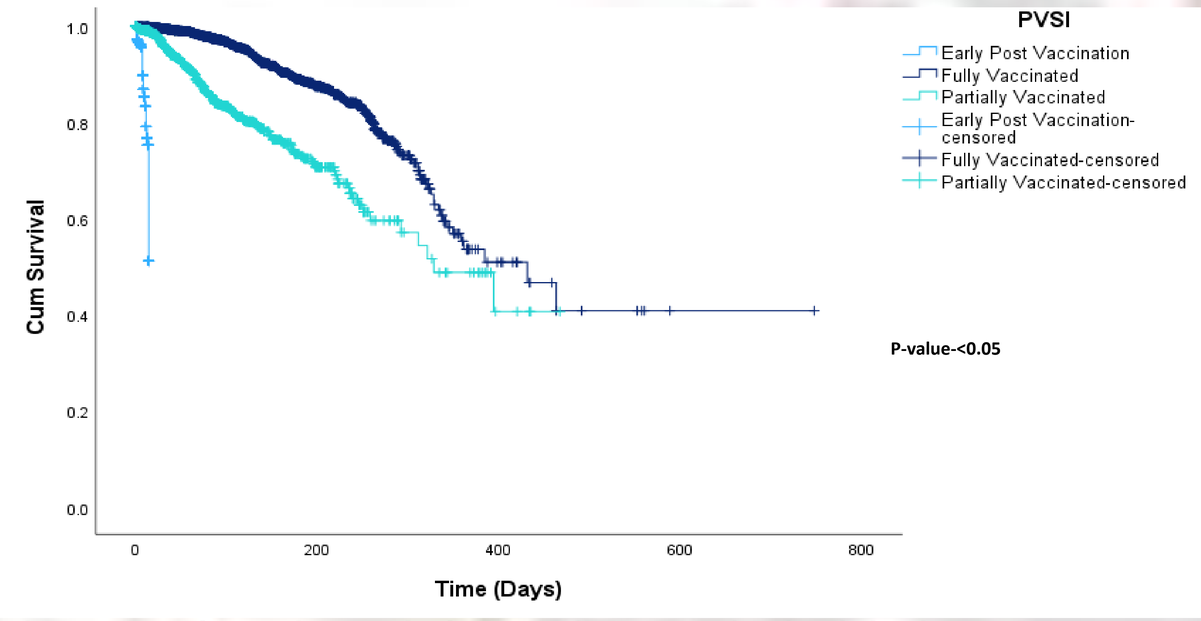

Figure 3: Kaplan-Meier survival curve of post-vaccination infections among vaccinated individuals tested at UNAM-MDL June 2021-May 2022

Table 1. Factors associated with post-vaccination infections among vaccinated individuals tested at UNAM-MDL June 2021-May 2022

Variable	RR	95%CI	P-value
Age (</>30)	1.581	1.314-1.903	**<0.001**
Sex (F/M)	2.201	1.877-2.581	**<0.001**
No. of Doses(1/3)	1.730	1.190-2.515	**0.003**
(2/3)	1.031	0.710-1.498	0.873
Symptomatic (N/Y)	0.113	0.097-0.131	**<0.001**
Comorbidities (N/Y)	0.610	0.504-0.738	**<0.001**
PSVI (EV/PV)	1.128	0.839-1.516	0.429
(FV/PV)	0.677	0.572-0.801	**<0.001**

F/M = Female/male, 1/3= 1st /3rd dose, 2/3= 2nd/3rd dose, N/Y= No/Yes, EV=Early Post-vaccination, FV=Fully vaccinated, PV=Partially vaccinated

CONCLUSION

- PVSIs occurred mostly among fully vaccinated individuals, although, the chances of survival in fully vaccinated were higher
- Older age and being female were associated with a higher risk of PVSI
- Although having received one vaccine dose was linked with increased risk of PVSI, being fully vaccinated was associated with a significantly lower risk.
- Being symptomatic or having comorbidities appeared to reduce the risk significantly.
- The importance of increased vaccination rates and booster doses was highlighted
- To protect against severe COVID-19, mitigate vaccine hesitancy, we actively participated in two vaccination campaign and promoted public vaccination uptake and increased community health awareness.

Acknowledgements

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