

SUPPLEMENTAL MATERIAL FOR PUBLICATION

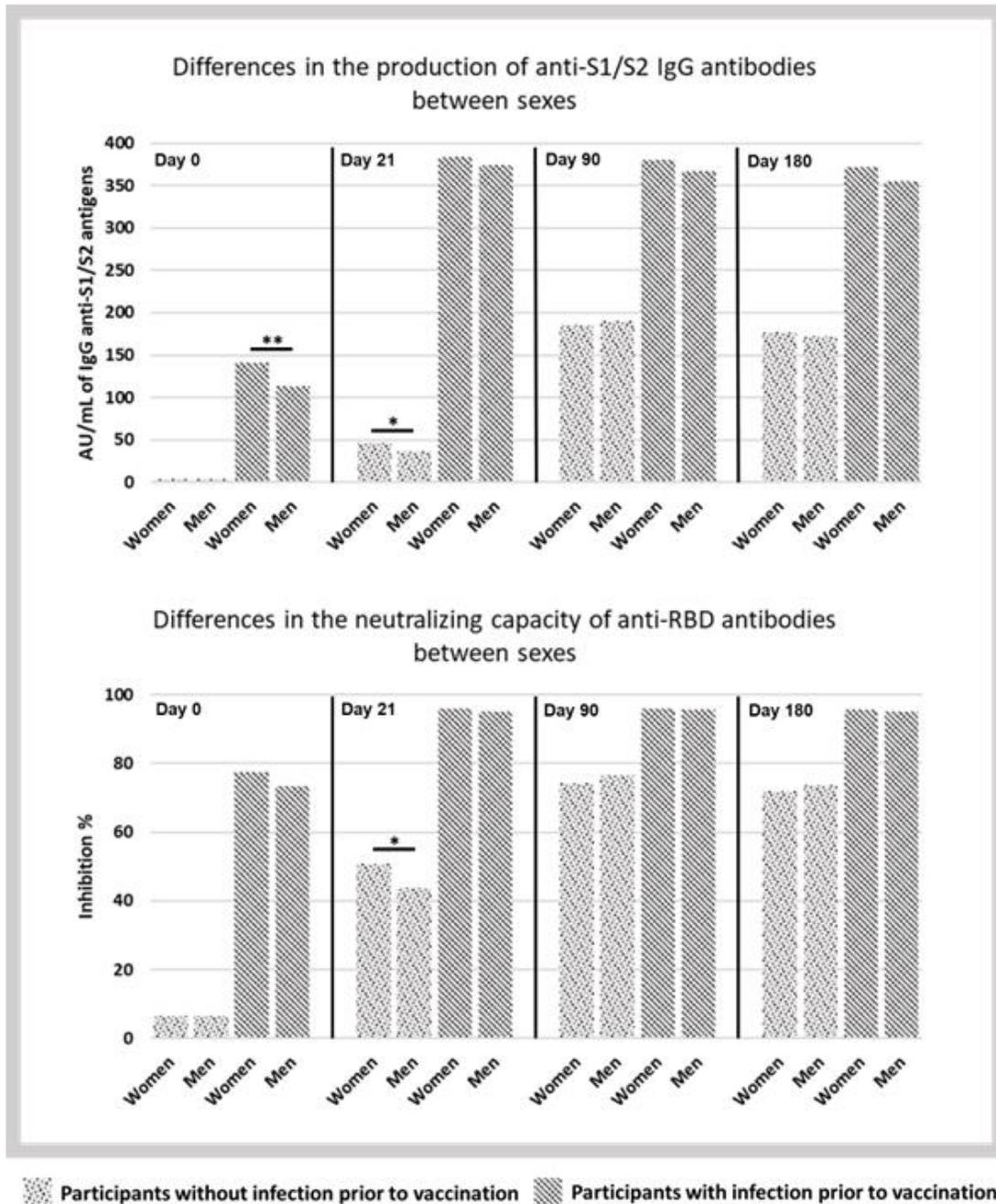


Fig. S1. Differences in the production of anti-S1/S2 IgG antibodies and the neutralizing capacity of anti-RBD antibodies between sexes.

Variants that circulated in the State of Mexico before, during and after the study

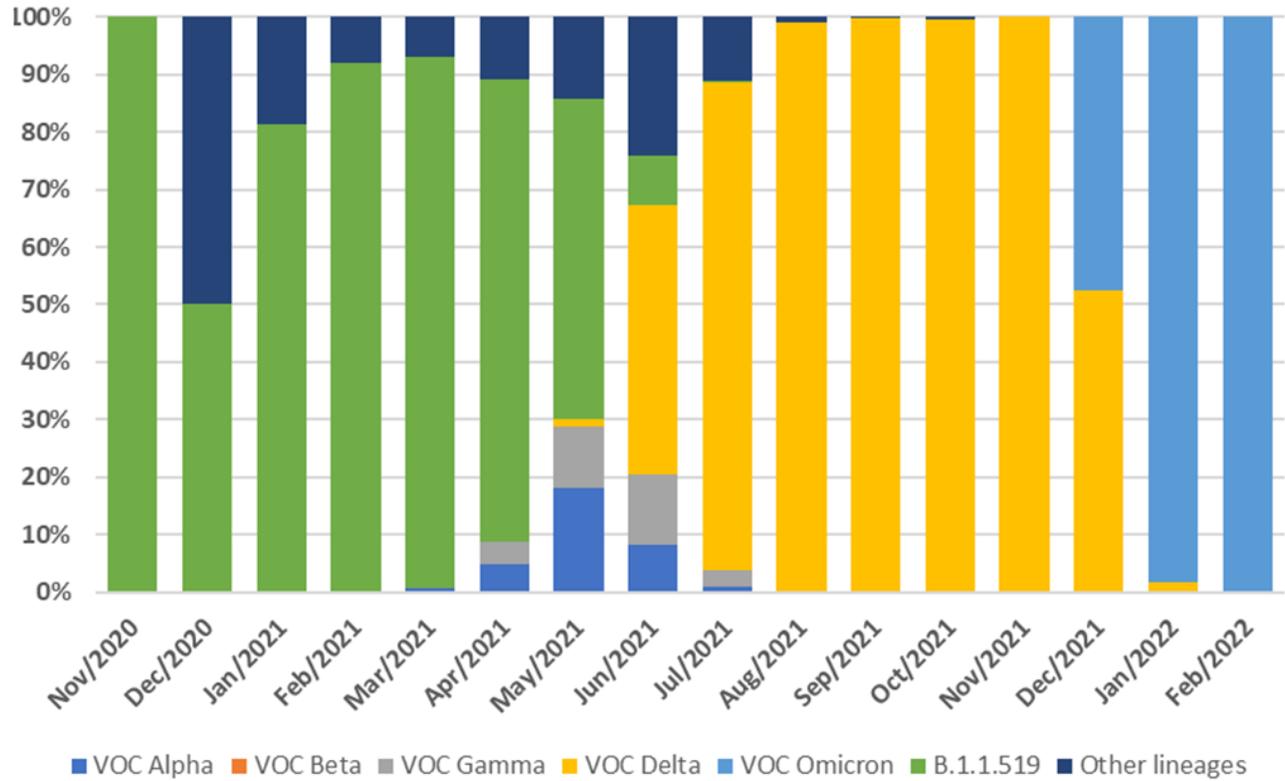


Fig. S2. Variants that circulated in the State of Mexico before, during and after the study. Before: Nov/2020-Apr/2021; during: May/2021-Jan/2022; after: Feb/2022.

Supplemental Table 1. Confidence intervals of the data shown in Fig. 7.

Antibodies IgG anti-S1/S2 (AU/mL)

VACCINE	Sample 1 mean (CI)	Sample 2 mean (CI)	Sample 3 mean (CI)	Sample 4 mean (CI)
<i>Participants without previous infection</i>				
BNT162b2	3.8 (3.7-3.9)	58.3 (47.8-68.8)	331.3 (299.2-363.4)	203.8 (163.0-244.6)
AZD1222	3.8 (3.7-3.9)	34.9 (26.4-43.5)	230.6 (206.9-254.3)	94.7 (56.0-133.4)
Convidecia	3.8 (3.7-3.9)	55.3 (47.9-62.7)	59.6 (34.6-84.6)	126.1 (93.0-159.2)
Sputnik V	3.9 (3.8-4.0)	42.8 (34.0-51.7)	269.9 (243.1-296.6)	249.6 (206.2-293.0)
CoronaVac	4.0 (3.9-4.2)	20.3 (9.9-30.7)	57.4 (26.4-88.5)	275.3 (228.9-321.8)
<i>Participants with previous infection</i>				
BNT162b2	167.5 (146.4-188.5)	400.0 (384.2-415.8)	400.0 (385.5-414.5)	400.0 (381.5-418.5)
AZD1222	161.8 (140.1-183.4)	400.0 (384.7-415.3)	400.0 (384.9-415.2)	400.0 (379.3-420.7)
Convidecia	115.1 (89.9-140.3)	400.0 (383.8-416.2)	400.0 (383.1-416.9)	400.0 (379.3-420.7)
Sputnik V	147.2 (123.6-170.8)	400.0 (381.9-418.1)	400.0 (383.3-416.7)	400.0 (379.0-421.1)
CoronaVac	79.7 (59.7-99.8)	309.1 (293.0-325.1)	282.5 (265.8-299.2)	231.4 (210.7-252.1)

Neutralizing capacity of antibodies against the RBD portion (% de inhibition)

VACCINE	Sample 1 mean (CI)	Sample 2 mean (CI)	Sample 3 mean (CI)	Sample 4 mean (CI)
<i>Participants without previous infection</i>				
BNT162b2	5.4 (4.1-6.7)	69.9 (61.7-78.1)	95.3 (88.7-102.0)	89.3 (81.8-96.9)
AZD1222	10.0 (9.0-11.0)	45.3 (38.7-51.9)	87.5 (82.6-92.4)	71.5 (65.1-78.0)
Convidecia	7.3 (6.4-8.3)	50.2 (44.5-56.0)	49.7 (45.0-54.4)	50.4 (44.4-56.4)
Sputnik V	4.5 (3.4-5.6)	47.1 (40.2-54.1)	94.5 (88.6-100.3)	88.5(80.0-97.0)
CoronaVac	5.8 (4.7-6.9)	32.2 (24.6-39.8)	62.4 (56.5-68.3)	81.6 (73.0-90.0)
<i>Participants with previous infection</i>				
BNT162b2	77.9 (73.5-82.3)	92.7 (91.4-94.0)	95.9 (95.5-96.3)	96.2 (95.3-97.1)
AZD1222	82.4 (77.9-87.0)	97.0 (95.8-98.4)	96.0 (95.6-96.5)	96.4 (95.4-97.3)
Convidecia	82.2 (77.0-87.5)	97.0 (95.6-98.3)	96.0 (95.5-96.5)	96.2 (95.3-97.1)
Sputnik V	73.3 (68.4-78.2)	97.2 (95.7-98.7)	96.8 (96.3-97.3)	95.9 (94.9-96.9)

CoronaVac	72.0 (68.0-76.0)	95.0 (93.7-96.5)	94.5 (94.0-95.0)	93.1 (92.1-94.2)
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Supplemental Table 2. Analysis of the amount of anti-S1/S2 IgG antibodies and neutralizing capacity between the groups with and without comorbidity.

SAMPLE 2

	PARTICIPANTS WITHOUT COVID-19 PRIOR TO VACCINATION					
	Mean of IgG anti-S1/S2 antibodies (AU/mL)			Average percentage neutralization of anti-RBD antibodies		
	YES	NO	p-value	YES	NO	p-value
DIABETES	40.2	49.6	0.270	48.8	48.3	0.999
OBESITY	44.4	50.0	0.344	48.3	48.4	0.892
ARTERIAL HYPERTENSION	39.2	50.0	0.362	50.0	48.1	0.750
IMMUNOSUPPRESSION	51.6	48.6	0.469	42.6	48.5	0.529

	PARTICIPANTS WITH COVID-19 PRIOR TO VACCINATION					
	Mean of IgG anti-S1/S2 antibodies (AU/mL)			Average percentage neutralization of anti-RBD antibodies		
	YES	NO	p-value	YES	NO	p-value
DIABETES	390.1	370.1	0.231	91.9	92.0	0.014
OBESITY	372.1	372.9	0.860	90.8	92.7	0.082
ARTERIAL HYPERTENSION	396.2	367.9	0.025	92.5	91.9	0.025
IMMUNOSUPPRESSION	384.3	372.2	0.408	96.8	91.9	0.225

SAMPLE 3

	PARTICIPANTS WITHOUT COVID-19 PRIOR TO VACCINATION					
	Mean of IgG anti-S1/S2 antibodies (AU/mL)			Average percentage neutralization of anti-RBD antibodies		
	YES	NO	p-value	YES	NO	p-value
DIABETES	199.7	191.3	0.794	72.4	72.4	0.932
OBESITY	218.8	284.2	0.103	75.9	71.3	0.249
ARTERIAL HYPERTENSION	224.8	186.2	0.107	78.0	71.4	0.110
IMMUNOSUPPRESSION	228.5	190.9	0.816	61.7	72.7	0.732

	PARTICIPANTS WITH COVID-19 PRIOR TO VACCINATION					
	Mean of IgG anti-S1/S2 antibodies (AU/mL)			Average percentage neutralization of anti-RBD antibodies		
	YES	NO	p-value	YES	NO	p-value
DIABETES	399.6	368.4	0.083	89.8	93.0	0.894
OBESITY	372.2	272.3	0.810	92.3	92.8	0.217
ARTERIAL HYPERTENSION	390.6	368.3	0.027	91.9	92.8	0.086
IMMUNOSUPPRESSION	363.0	372.7	0.637	94.3	92.5	0.551

SAMPLE 4

PARTICIPANTS WITHOUT COVID-19 PRIOR TO VACCINATION

	Mean of IgG anti-S1/S2 antibodies (AU/mL)			Average percentage neutralization of anti-RBD antibodies		
	SÍ	NO	p-value	SÍ	NO	p-value
DIABETES	159.9	188.2	0.291	64.1	71.0	0.161
OBESITY	180.1	186.9	0.679	67.8	71.2	0.617
ARTERIAL HYPERTENSION	151.6	192.1	0.172	65.7	71.2	0.068
IMMUNOSUPPRESSION	251.6	182.6	0.507	66.1	70.4	0.924

PARTICIPANTS WITH COVID-19 PRIOR TO VACCINATION

	Mean of IgG anti-S1/S2 antibodies (AU/mL)			Average percentage neutralization of anti-RBD antibodies		
	YES	NO	p-value	YES	NO	p-value
DIABETES	383.7	358.1	0.182	89.5	93.1	0.801
OBESITY	341.2	374.0	0.084	90.7	93.8	0.463
ARTERIAL HYPERTENSION	376.5	358.2	0.179	93.0	92.5	0.642
IMMUNOSUPPRESSION	400.0	360.1	0.240	94.3	92.6	0.181