

| Parameters | | N (%) |
|------------------|---|--------------|
| Sex | Females | 616 (73.25%) |
| | Males | 225 (26.75%) |
| Age | 18-29 years | 431 (51.37%) |
| | 30-39 years | 218 (25.92%) |
| | 40-49 years | 146 (17.24%) |
| | ≥50 years | 46 (5.47%) |
| Chronic diseases | Total | 136 (11.89%) |
| | Type 1 diabetes mellitus | 6 (0.71%) |
| | Type 2 diabetes mellitus | 13 (1.55%) |
| | Hypertension | 23 (2.7%) |
| | Type 1 diabetes mellitus and hypertension | 1 (0.12%) |
| | Type 2 diabetes mellitus and hypertension | 2 (0.24%) |
| | Autoimmune diseases | 12 (1.43%) |
| | Other | 52 (6.2 %) |

Supplementary Table S1. Characteristics of the participants.

| Vaccine | First dose N (%) | Second dose N (%) | Third dose N (%) |
|--------------------------|-------------------------|--------------------------|-------------------------|
| BNT162b2 | 702 (83.5%) | 673 (81.2%) | 101 (68.2%) |
| ChAdOx1-S | 92 (66.2%) | 98 (11.8%) | 11 (7.4%) |
| Sinopharm | 2 (0.24%) | 3 (0.36%) | 0 |
| MRNA-1273 | 0 | 1 (0.12) | 2 (1.35%) |
| Ad26.COVS. S | 1 (0.12%) | 0 | 0 |
| Sputnik V | 1 (0.12%) | 1 (0.12%) | 0 |
| Sinovac-Coronavac | 1 (0.12%) | 0 | 0 |
| Other | 1 (0.12%) | 2 (0.24%) | 1 (0.7%) |
| Do not know | 41 (4.9%) | 51 (6.2%) | 33 (22.3%) |

Supplementary Table S2. Type and number of doses of the anti-SARS-COV-2 vaccines administrated to the participants

| First Dose All Vaccines; N (%) | | | | |
|---------------------------------|-------------------------|--------------------|------------|----------|
| | Did not Develop Allergy | Developped Allergy | Odds Ratio | P-Value |
| No Allergy | 709 (99.44%) | 4 (0.56%) | 0.11 | 0.000062 |
| Having Allergy | 120 (95.24%) | 6 (4.76%) | | |
| Second Dose All Vaccines; N (%) | | | | |
| | Did not Develop Allergy | Developped Allergy | | |
| No Allergy | 698 (99.43%) | 4 (0.57%) | 0.23 | 0.041 |
| Having Allergy | 123 (97.62%) | 3 (2.38%) | | |
| First Dose BNT162b2; N (%) | | | | |
| | Did not Develop Allergy | Developped Allergy | | |
| No Allergy | 595 (99.5%) | 3 (0.5%) | 0.1 | 0.000134 |
| Having Allergy | 99 (95.19%) | 5 (4.81%) | | |
| Second Dose BNT162b2; N (%) | | | | |
| | Did not Develop Allergy | Developped Allergy | | |
| No Allergy | 587 (99.49%) | 3 (0.51%) | 0.17 | 0.016 |
| Having Allergy | 101 (97.12%) | 3 (2.88%) | | |
| First Dose ChAdOx1-S; N (%) | | | | |
| | Did not Develop Allergy | Developped Allergy | | |
| No Allergy | 73 (98.65%) | 1 (1.35%) | 0.21 | 0.23 |
| Having Allergy | 15 (93.75%) | 1 (6.25%) | | |
| Second Dose ChAdOx1-S; N (%) | | | | |
| | Did not Develop Allergy | Developped Allergy | | |
| No Allergy | 73 (100%) | 0 (0%) | 0 | 0.23 |
| Having Allergy | 15 (93.75%) | 1 (6.25%) | | |

Supplementary Table S3. The association between having a history of allergy and developing allergy upon vaccination

| Number of infections with SARS-CoV-2 | Side effect magnitude; N (%) | | | Odds Ratio | | | P value |
|--------------------------------------|------------------------------|-------------|------------|------------|--------------|--------------|----------|
| | None | Mild | Strong | None/ Mild | None/ Strong | Mild/ Strong | |
| First dose | | | | | | | |
| None | 99 (24.5%) | 259 (64.1%) | 46 (11.4%) | 0.99 | 0.94 | 0.95 | 0.965 |
| One | 105 (24.1%) | 278 (63.9%) | 52 (12%) | | | | |
| None and one | 204 (24.3%) | 537 (64%) | 98 (11.7%) | 1.24 | 1.44 | 1.16 | 0.41 |
| Two | 33 (28.9%) | 70 (61.4%) | 11 (9.7%) | | | | |
| None | 99 (24.5%) | 259 (64.1%) | 46 (11.4%) | 1.23 | 1.39 | 1.13 | 0.31 |
| Two | 33 (28.9%) | 70 (61.4%) | 11 (9.7%) | | | | |
| None | 99 (24.5%) | 259 (64.1%) | 46 (11.4%) | 1.04 | 1.02 | 0.98 | 0.97 |
| One and Two | 138 (25.1%) | 348 (63.4%) | 63 (11.5%) | | | | |
| One | 105 (24.1%) | 278 (63.9%) | 52 (12%) | 1.25 | 1.49 | 1.19 | 0.31 |
| Two | 33 (28.9%) | 70 (61.4%) | 11 (9.7%) | | | | |
| Second dose | | | | | | | |
| None | 143 (35.6%) | 226 (56.4%) | 32 (8%) | 0.62 | 0.44 | 0.70 | 0.001 |
| One | 105 (24.6%) | 268 (62.8%) | 54 (12.6%) | | | | |
| None and one | 248 (29.9%) | 494 (59.7%) | 86 (10.4%) | 0.58 | 0.36 | 0.63 | 0.002 |
| Two | 21 (18.6%) | 72 (63.7%) | 20 (17.7%) | | | | |
| None | 143 (35.6%) | 226 (56.4%) | 32 (8%) | 0.46 | 0.23 | 0.51 | 0.000189 |
| Two | 21 (18.6%) | 72 (63.7%) | 20 (17.7%) | | | | |
| None | 143 (35.6%) | 226 (56.4%) | 32 (8%) | 0.59 | 0.38 | 0.65 | 0.001 |
| One and Two | 126 (23.3%) | 340 (63%) | 74 (13.7%) | | | | |
| One | 105 (24.5%) | 268 (62.9%) | 54 (12.6%) | 0.74 | 0.54 | 0.73 | 0.068 |
| Two | 21 (18.6%) | 72 (63.7%) | 20 (17.7%) | | | | |
| Third dose | | | | | | | |
| None | 21 (32.8%) | 42 (65.6%) | 1 (1.56%) | 0.97 | 0.29 | 0.29 | 0.54 |
| One | 18 (31%) | 37 (63.8%) | 3 (5.2%) | | | | |
| None and one | 39 (32%) | 79 (64.8%) | 4 (3.2%) | 0.89 | 0.18 | 0.20 | 0.054 |
| Two | 7 (25.9%) | 16 (59.3%) | 4 (14.8%) | | | | |
| None | 21 (32.8%) | 42 (65.6%) | 1 (1.6%) | 0.88 | 0.08 | 0.10 | 0.039 |
| Two | 7 (25.9%) | 16 (59.3%) | 4 (14.8%) | | | | |
| None | 21 (32.8%) | 42 (65.6%) | 1 (1.56%) | 0.94 | 0.17 | 0.18 | 0.199 |
| One and Two | 25 (29.4%) | 53 (62.4%) | 7 (8.2%) | | | | |
| One | 18 (31%) | 37 (63.8%) | 3 (5.2%) | 0.90 | 0.29 | 0.32 | 0.32 |
| Two | 7 (25.9%) | 16 (59.3%) | 4 (14.8%) | | | | |

Supplementary Table S4. The infection with the SARS-CoV-2 and the magnitude of the side effects after the anti-SARS-CoV-2 vaccination.

| Number of infections with SARS-CoV-2 | Side effect magnitude; N (%) | | | Odds Ratio | | | P value |
|--------------------------------------|------------------------------|-------------|------------|------------|--------------|--------------|---------|
| | None | Mild | Strong | None/ Mild | None/ Strong | Mild/ Strong | |
| First dose | | | | | | | |
| None | 85 (25.2%) | 211 (62.6%) | 41 (12.2%) | 0.81 | 0.88 | 1.08 | 0.85 |
| One | 60 (21.7%) | 184 (66.4%) | 33 (11.9%) | | | | |
| None and one | 145 (23.6%) | 395 (64.3%) | 74 (12.1%) | 1.52 | 2.11 | 1.39 | 0.125 |
| Two | 29 (33%) | 52 (59%) | 7 (8%) | | | | |
| None | 85 (25.2%) | 211 (62.6%) | 41 (12.2%) | 1.38 | 2.00 | 1.44 | 0.248 |
| Two | 29 (33%) | 52 (59%) | 7 (8%) | | | | |
| None | 85 (25.2%) | 211 (62.6%) | 41 (12.2%) | 0.94 | 1.07 | 1.15 | 0.824 |
| One and Two | 89 (24.4%) | 236 (64.6%) | 40 (11%) | | | | |
| One | 60 (21.7%) | 184 (66.4%) | 33 (11.9%) | 1.71 | 2.28 | 1.33 | 0.082 |
| Two | 29 (33%) | 52 (59%) | 7 (8%) | | | | |
| Second dose | | | | | | | |
| None | 119 (35.4%) | 188 (56%) | 29 (8.6%) | 0.63 | 0.46 | 0.73 | 0.005 |
| One | 89 (24.9%) | 222 (62%) | 47 (13.1%) | | | | |
| None and one | 208 (30%) | 410 (59.1%) | 76 (10.9%) | 0.73 | 0.41 | 0.56 | 0.012 |
| Two | 19 (21.8%) | 51 (68.6%) | 17 (19.6%) | | | | |
| None | 119 (35.4%) | 188 (56%) | 29 (8.6%) | 0.59 | 0.27 | 0.46 | 0.003 |
| Two | 19 (21.8%) | 51 (68.6%) | 17 (19.6%) | | | | |
| None | 119 (35.4%) | 188 (56%) | 29 (8.6%) | 0.62 | 0.41 | 0.66 | 0.004 |
| One and Two | 108 (24.3%) | 273 (61.3%) | 64 (14.4%) | | | | |
| One | 89 (24.9%) | 222 (62%) | 47 (13.1%) | 0.93 | 0.59 | 0.64 | 0.118 |
| Two | 19 (21.8%) | 51 (68.6%) | 17 (19.6%) | | | | |
| Third dose | | | | | | | |
| None | 18 (31.6) | 38 (66.7%) | 1 (1.8%) | 0.97 | 0.30 | 0.31 | 0.56 |
| One | 16 (29.6%) | 35 (64.8%) | 3 (5.6%) | | | | |
| None and one | 34 (30.6%) | 73 (65.8%) | 4 (3.6%) | 0.92 | 0.35 | 0.38 | 0.52 |
| Two | 6 (27.3%) | 14 (63.6%) | 2 (9.1%) | | | | |
| None | 18 (31.6%) | 38 (66.7%) | 1 (1.8%) | 0.90 | 0.17 | 0.18 | 0.306 |
| Two | 6 (27.3%) | 14 (63.6%) | 2 (9.1%) | | | | |
| None | 18 (31.6%) | 38 (66.7%) | 1 (1.8%) | 0.95 | 0.24 | 0.26 | 0.411 |
| One and Two | 22 (28.9%) | 49 (64.5%) | 5 (6.6%) | | | | |
| One | 16 (29.6%) | 35 (64.8%) | 3 (5.6%) | 0.94 | 0.56 | 0.60 | 0.848 |
| Two | 6 (27.3%) | 14 (63.6%) | 2 (9.1%) | | | | |

Supplementary Table S5. The infection with the SARS-CoV-2 and the magnitude of the side effects after the BNT162b2 vaccine.

| Number of infections with SARS-CoV-2 | Side effect magnitude; N (%) | | | Odds Ratio | | | P value |
|--------------------------------------|------------------------------|------------|-----------|------------|--------------|--------------|---------|
| | None | Mild | Strong | None/ Mild | None/ Strong | Mild/ Strong | |
| First dose | | | | | | | |
| None | 9 (23.1%) | 27 (69.2%) | 3 (7.7%) | 1.29 | 0.75 | 0.58 | 0.509 |
| One | 9 (26.5%) | 21 (61.8%) | 4 (11.8%) | | | | |
| None and one | 18 (24.3%) | 48 (64.9%) | 7 (10.8%) | 0.22 | 0.13 | 0.58 | 0.233 |
| Two | 1 (12.4%) | 12 (81.3%) | 3 (6.3%) | | | | |
| None | 9 (23.1%) | 27 (69.2%) | 3 (7.7%) | 0.25 | 0.11 | 0.44 | 0.213 |
| Two | 1 (12.4%) | 12 (81.3%) | 3 (6.3%) | | | | |
| None | 9 (23.1%) | 27 (69.2%) | 3 (7.7%) | 0.91 | 0.48 | 0.52 | 0.509 |
| One and Two | 10 (19.6%) | 33 (64.7%) | 7 (15.7%) | | | | |
| One | 9 (26.5%) | 21 (61.8%) | 4 (11.8%) | 0.19 | 0.15 | 0.76 | 0.267 |
| Two | 1 (12.4%) | 12 (81.3%) | 3 (6.3%) | | | | |
| Second dose | | | | | | | |
| None | 12 (30.8%) | 26 (66.7%) | 1 (2.6%) | 0.93 | 0.19 | 0.20 | 0.293 |
| One | 9 (26.5%) | 21 (61.8%) | 4 (11.8%) | | | | |
| None and one | 21 (28.8%) | 47 (64.4%) | 5 (6.8%) | 0.34 | 0.48 | 1.38 | 0.386 |
| Two | 2 (12.4%) | 13 (81.3%) | 1 (6.3%) | | | | |
| None | 12 (30.8%) | 26 (66.7%) | 1 (2.6%) | 0.33 | 0.17 | 0.50 | 0.324 |
| Two | 2 (12.4%) | 13 (81.3%) | 1 (6.3%) | | | | |
| None | 12 (30.8%) | 26 (66.7%) | 1 (2.6%) | 0.70 | 0.18 | 0.26 | 0.293 |
| One and Two | 11 (22%) | 34 (68%) | 5 (10%) | | | | |
| One | 9 (26.5%) | 21 (61.8%) | 4 (11.8%) | 0.36 | 0.89 | 2.48 | 0.386 |
| Two | 2 (12.4%) | 13 (81.3%) | 1 (6.3%) | | | | |

Supplementary Table S6. The infection with the SARS-CoV-2 and the magnitude of the side effects after the ChAdOx1-S vaccine.