**Supplementary materials**

**Table S1.** Prevalence of COVID-19 positive cases in children during autumn 2020 to spring 2021 in Teheran.1

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Combined results** | | | | **Descriptive results for children based on ELISA and q-RT-PCR tests for each participant** | | | | |  |
| **Season** | **Total RT-qPCR Positive2** | **% (95% confidence intervals)** | **Total ELISA Positive3** | **% (95% CI)1** | **ELISA (+)/ qRT PCR (+)** | **% (95% CI)** | **ELISA (-)/ RT-qPCR (+)** | **% (95% CI)** | **ELISA (+)/qRT PCR (-)** | **% (95% CI)** |
| **Autumn 2020** | 57/356 | 15.82 (12.24-20.22) | 107/356 | 30.41% (25.70-35.57) | 15/356 | 4.71% (2.78-7.87) | 42/356 | 11.11% (8.19-14.91) | 92/356 | 25.70% (21.23-30.74) |
| **Winter 2020-2021** | 11/551 | 2.40  (1.03-5.53) | 184/551 | 35.94% (30.58-41.67) | 2/551 | 0.39% (0.07-2.03) | 9/551 | 2.01% (0.77-5.16)) | 182/551 | 35.54% (30.20-41.27) |
| **Spring 2021** | 67/610 | 13.93% (10.46-18.31) | 207/610 | 33.33% (28.69-38.31) | 17/610 | 3.71% (1.95-6.95) | 50/610 | 10.22% (7.35-14.04) | 190/610 | 29.62% (25.34-34.29) |

1. The percentages and 95% confidence intervals are presented with population weighting considering age, gender and season.

2. Total RT-qPCR Positive represents sum of participants with PCR (+)/ELISA (-) and ELISA (+)/PCR (+) tests results.

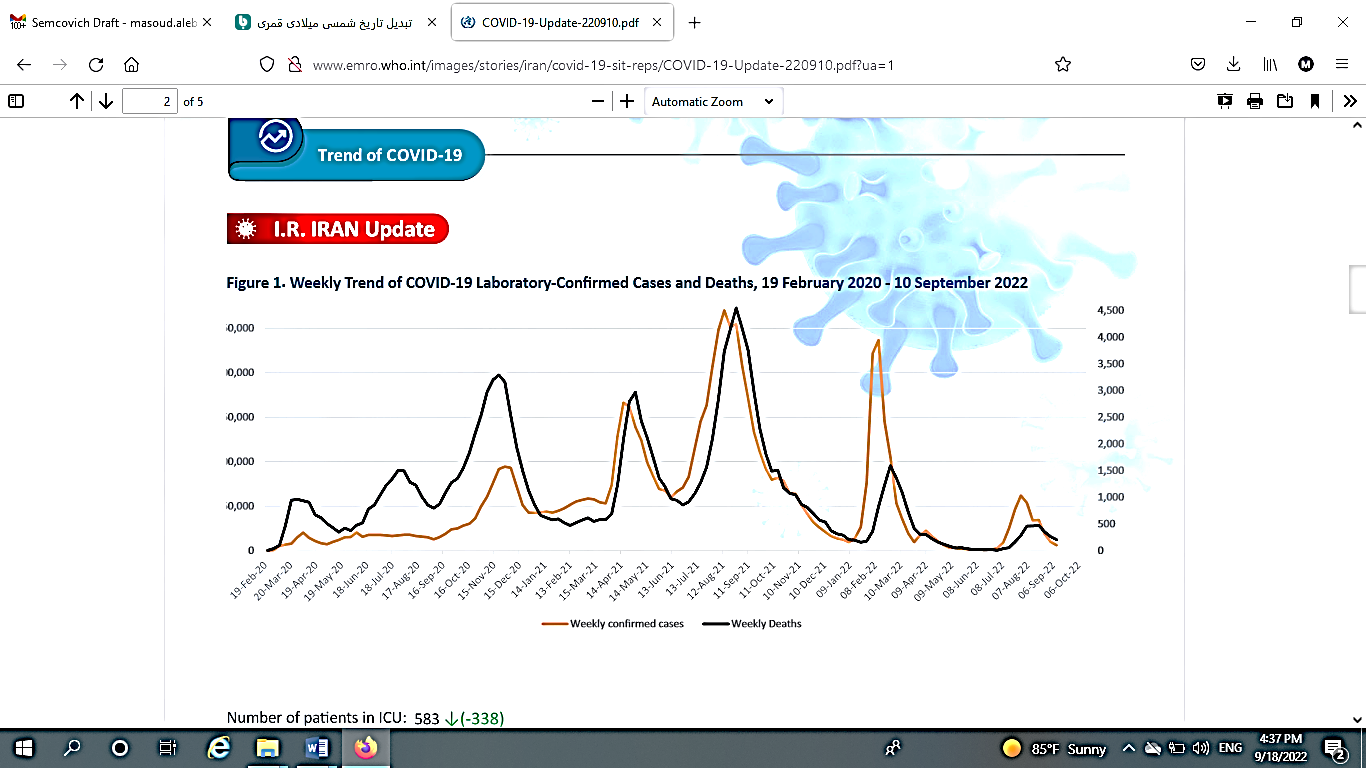
3. Total ELISA Positive represents sum of participants with PCR (-)/ELISA (+) and ELISA (+)/PCR (+) tests results.

**Table S2. Participants’ characteristics by the site of sampling in Tehran, from autumn 2020 to spring 2021.**

“Continued”

|  | |  | SNAPP (%) | Tajrish Lab (%) | Vahidiye Lab (%) | Medical Lab (%) | | Total (%) | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Season | | Autumn 2020 | 186 (100.00) | 72 (15.06) | 34 (20.99) | 63 (9.12) | | 355 (23.40) | |
|  | | Winter 2020 | 0 (0.00) | 284 (59.41) | 90 (55.56) | 176 (25.47) | | 550 (36.26) | |
|  | | Spring 2021 | 0 (0.00) | 122 (25.52) | 38 (23.46) | 451 (65.27) | | 611 (40.28) | |
|  | | summer 2021 | 0 (0.00) | 0 (0.00) | 0 (0.00) | 0 (0.00) | | 0 (0.00) | |
|  | | Missing | 0 (0.00) | 0 (0.00) | 0 (0.00) | 1 (0.14) | | 1 (0.07) | |
| Geographic location | | Northern | 39 (24.52) | 37 (16.66) | 1 (1.07) | 9 (3.54) | | 86 (11.81) | |
|  | | Southern | 26 (16.35) | 94 (42.34) | 30 (32.25) | 92 (36.22) | | 242 (33.24) | |
|  | | Western | 9 (5.66) | 23 (10.36) | 6 (6.45) | 14 (5.51) | | 52 (7.14) | |
|  | | Eastern | 53 (33.33) | 49 (22.07) | 49 (52.68) | 101 (39.76) | | 252 (34.61) | |
|  | | Central | 32 (20.12) | 19 (8.55) | 7 (7.52) | 38 (14.96) | | 96 (13.18) | |
|  | | Missing | 27 (14.51) | 0 (0.00) | 0 (0.00) | 762 (75.00) | | 789 (52.01) | |
| Gender | | female | 74 (39.78) | 133 (27.82) | 46 (28.40) | 230 (33.29) | | 483 (31.84) | |
|  | | male | 109 (58.60) | 337 (70.50) | 115 (70.99) | 458 (66.28) | | 1019 (67.17) | |
|  | | Missing | 3 (1.61) | 8 (1.67) | 1 (0.62) | 3 (0.43) | | 15 (0.99) | |
| Age | | <=4y | 60 (32.26) | 259 (54.18) | 87 (53.70) | 183 (26.48) | | 589 (38.83) | |
|  | | 5-9y | 72 (38.71) | 105 (21.97) | 30 (18.52) | 84 (12.16) | | 291 (19.18) | |
|  | | 10-14y | 54 (29.03) | 29 (6.07) | 21 (12.96) | 34 (4.92) | | 138 (9.10) | |
|  | | Missing | 0 (0.00) | 85 (17.78) | 24 (14.81) | 390 (56.44) | | 499 (32.89) | |
| Smoker in house | | yes | 44 (23.66) | 69 (14.44) | 35 (21.60) | 121 (17.51) | | 269 (17.73) | |
|  | | No | 106 (56.99) | 390 (81.59) | 123 (75.93) | 482 (69.75) | | 1101 (72.58) | |
|  | | Missing | 36 (19.35) | 19 (3.97) | 4 (2.47) | 88 (12.74) | | 147 (9.69) | |
| Socioeconomic status | | high | 0 (0.00) | 3 (0.63) | 3 (1.85) | 5 (0.72) | | 11 (0.73) | |
|  | | mid | 14 (7.53) | 210 (43.93) | 94 (58.02) | 300 (43.42) | | 618 (40.74) | |
|  | | low | 0 (0.00) | 226 (47.28) | 53 (32.72) | 238 (34.44) | | 517 (34.08) | |
|  | | Missing | 172 (92.47) | 39 (8.16) | 12 (7.41) | 148 (21.42) | | 371 (24.46) | |
| Family Members | | 2-3 | 74 (39.78) | 179 (37.45) | 70 (43.21) | 277 (40.09) | | 600 (39.55) | |
|  | | 4 | 85 (45.70) | 194 (40.59) | 65 (40.12) | 264 (38.21) | | 608 (40.08) | |
|  | | >=5 | 25 (13.44) | 86 (17.99) | 24 (14.81) | 122 (17.66) | | 257 (16.94) | |
|  | | Missing | 2 (1.08) | 19 (3.97) | 3 (1.85) | 28 (4.05) | | 52 (3.43) | |
| Contact with a COVID patient during last 4 weeks | | yes | 101 (54.30) | 10 (2.09) | 18 (11. 11) | 62 (8.97) | | 191 (12.59) | |
|  | | no | 83 (44.62) | 414 (86.61) | 127 (78.40) | 493 (71.35) | | 1117 (73.63) | |
|  | | unknown | 1 (0.54) | 40 (8.37) | 14 (8.64) | 54 (7.81) | | 109 (7.19) | |
|  | | Missing | 1 (0.54) | 14 (2.93) | 3 (1.85) | 82 (11.87) | | 100 (6.59) | |
| Symptomatic (fever or cough or diarrhea)/ Asymptomatic | | Asymptomatic | 115 (61.83) | 419 (87.66) | 145 (89.51) | 468 (67.73) | | 1147 (75.61) | |
|  | | Symptomatic | 70 (37.63) | 44 (9.21) | 12 (7.41) | 137 (19.83) | | 263 (17.34) | |
|  | | Missing | 1 (0.54) | 15 (3.14) | 5 (3.09) | 86 (12.45) | | 107 (7.05) | |
| Sore throat | | yes | 45 (24.19) | 16 (3.35) | 5 (3.09) | 59 (8.54) | | 125 (8.24) | |
|  | | no | 138 (74.19) | 431 (90.17) | 145 (89.51) | 496 (71.78) | | 1210 (79.76) | |
|  | | Missing | 3 (1.61) | 31 (6.49) | 12 (7.41) | 136 (19.68) | | 182 (12.00) | |
| Fatigue | | yes | 36 (19.35) | 11 (2.30) | 8 (4.94) | 62 (8.97) | | 117 (7.71) | |
|  | | no | 148 (79.57) | 436 (91.21) | 143 (88.27) | 498 (72.07) | | 1225 (80.75) | |
|  | | Missing | 2 (1.08) | 31 (6.49) | 11 (6.79) | 131 (18.96) | | 175 (11.54) | |
| Fever >38 oC | | yes | 36 (19.35) | 18 (3.77) | 9 (5.56) | 85 (12.30) | | 148 (9.76) | |
|  | | no | 147 (79.03) | 439 (91.84) | 141 (87.04) | 483 (69.90) | | 1210 (79.76) | |
|  | | Missing | 3 (1.61) | 21 (4.39) | 12 (7.41) | 123 (17.80) | | 159 (10.48) | |
| Cough | | yes | 41 (22.04) | 20 (4.18) | 6 (3.70) | 63 (9.12) | | 130 (8.57) | |
|  | | no | 144 (77.42) | 431 (90.17) | 146 (90.12) | 498 (72.07) | | 1219 (80.36) | |
|  | | Missing | 1 (0.54) | 27 (5.65) | 10 (6.17) | 130 (18.81) | | 168 (11.07) | |
| Rhinorrhea | | yes | 42 (22.58) | 17 (3.56) | 9 (5.56) | 55 (7.96) | | 123 (8.11) | |
|  | | no | 143 (76.88) | 435 (91.00) | 143 (88.27) | 504 (72.94) | | 1225 (80.75) | |
|  | | Missing | 1 (0.54) | 26 (5.44) | 10 (6.17) | 132 (19.10) | | 169 (11.14) | |
| Stomachache | | yes | 26 (13.98) | 26 (5.44) | 17 (10.49) | 69 (9.99) | | 138 (9.10) | |
|  | | no | 155 (83.33) | 427 (89.33) | 136 (83.95) | 490 (70.91) | | 1208 (79.63) | |
|  | | Missing | 5 (2.69) | 25 (5.23) | 9 (5.56) | 132 (19.10) | | 171 (11.27) | |
| Headache | | yes | 33 (17.74) | 13 (2.72) | 6 (3.70) | 31 (4.49) | | 83 (5.47) | |
|  | | no | 144 (77.42) | 440 (92.05) | 146 (90.12) | 518 (74.96) | | 1248 (82.27) | |
|  | | Missing | 9 (4.84) | 25 (5.23) | 10 (6.17) | 142 (20.55) | | 186 (12.26) | |
| Nausea/vomiting | | Yes | 19 (10.22) | 10 (2.09) | 5 (3.09) | 47 (6.80) | | 81 (5.34) | |
|  | | No | 166 (89.25) | 441 (92.26) | 147 (90.74) | 513 (74.24) | | 1267 (83.52) | |
|  | | Missing | 1 (0.54) | 27 (5.65) | 10 (6.17) | 131 (18.96) | | 169 (11.14) | |
| Diarrhea | | Yes | 15 (8.06) | 11 (2.30) | 5 (3.09) | 46 (6.66) | | 77 (5.08) | |
|  | | No | 169 (90.86) | 436 (91.21) | 141 (87.04) | 511 (73.95) | | 1257 (82.86) | |
| “Continued” | | Missing | 2 (1.08) | 31 (6.49) | 16 (9.88) | 134 (19.39) | | 183 (12.06) | |
| Wheeze | | Yes | 9 (4.84) | 6 (1.26) | 1 (0.62) | 25 (3.62) | | 41 (2.70) | |
|  | | no | 176 (94.62) | 444 (92.89) | 151 (93.21) | 524 (75.83) | | 1295 (85.37) | |
|  | | Missing | 1 (0.54) | 28 (5.86) | 10 (6.17) | 142 (20.55) | | 181 (11.93) | |
| Dyspnea | | yes | 4 (2.15) | 5 (1.05) | 1 (0.62) | 12 (1.74) | | 22 (1.45) | |
|  | | no | 181 (97.31) | 447 (93.51) | 151 (93.21) | 535 (77.42) | | 1314 (86.62) | |
|  | | Missing | 1 (0.54) | 26 (5.44) | 10 (6.17) | 144 (20.84) | | 181 (11.93) | |
| Myalgia | | yes | 24 (12.90) | 0 (0.00) | 0 (0.00) | 0 (0.00) | | 24 (1.58) | |
|  | | no | 154 (82.80) | 439 (91.84) | 144 (88.89) | 520 (75.25) | | 1257 (82.86) | |
|  | | Missing | 8 (4.30) | 39 (8.16) | 18 (11.11) | 171 (24.75) | | 236 (15.56) | |
| Chest pain | | yes | 4 (2.15) | 3 (0.63) | 2 (1.23) | 10 (1.45) | | 19 (1.25) | |
|  | | no | 171 (91.94) | 448 (93.72) | 148 (91.36) | 537 (77.71) | | 1304 (85.96) | |
|  | | Missing | 11 (5.91) | 27 (5.65) | 12 (7.41) | 144 (20.84) | | 194 (12.79) | |
| Other respiratory symptoms | | yes | 1 (0.54) | 3 (0.63) | 0 (0.00) | 6 (0.87) | | 10 (0.66) | |
|  | | no | 176 (94.62) | 447 (93.51) | 152 (93.83) | 537 (77.71) | | 1312 (86.49) | |
|  | | Missing | 9 (4.84) | 28 (5.86) | 10 (6.17) | 148 (21.42) | | 195 (12.85) | |
| Change in smell or taste | | yes | 0 (0.00) | 3 (0.63) | 3 (1.85) | 3 (0.43) | | 9 (0.59) | |
|  | | no | 11 (5.91) | 343 (71.76) | 78 (48.15) | 445 (64.40) | | 877 (57.81) | |
|  | | unknown | 2 (1.08) | 67 (14.02) | 26 (16.05) | 66 (9.55) | | 161 (10.61) | |
|  | Missing | | 173 (93.01) | 65 (13.60) | 55 (33.95) | | 177 (25.62) | 470 (30.98) |

**Figure S1. Reported COVID-19 cases from February 2020 to October 2022 in Iran.**



**Survey**

Source: [http://www.emro.who.int/iran/information-resources/COVID-19-situation-reports.html](http://www.emro.who.int/iran/information-resources/covid-19-situation-reports.html); [Number 846, 10 September 2022](http://www.emro.who.int/images/stories/iran/covid-19-sit-reps/COVID-19-Update-220910.pdf?ua=1). The survey was conducted in Tehran between 19 September 2020 and 21 June 2021.