

Appendix 1 The Questionnaire for the medical staff who has ever performed the pharyngeal swab during COVID-19 pandemic

1. What is your gender?
A. Male B. Female
2. What is your age? _____
3. Are you a specialist from infection or pneumology department, or ICU?
A. Yes B. No
4. How many times have you performed the pharyngeal swab during the pandemic of COVID-19?
A. Less than 5 times B. Between 5 to 10 times C. More than 10 times
5. Do you have fear for the risk of being infected of SARS-CoV-2 during pharyngeal swabs?
A. Not at all B. rare C. Often D. Always
6. During the operation of pharyngeal swabs, did you fully exposed the bilateral tonsil and pharyngeal and got a clear operative field?
A. Not at all B. rare C. Often D. Always
7. Have you been infected by the SARS-CoV-2?
A. Yes B. No
8. Which personal protective equipment (PPE) have you wore when you proceeded the pharyngeal swabs? (multiple-choice question)
A. Goggles; B. N95 masks; C. other medical mask; D. Isolation gown;
E. Face shield; F. Powered air purifying respirator (PAPR)
9. The location of the medical institution you served in the COVID-19 pandemic:
A. Wuhan, Hubei Province, China; B. Hubei Province except Wuhan, China
C. Province other than Hubei; D. Countries other than China

Table S1 The detailed clinical data of the subjects

No.	Gender	Age	Intervals	Traditional date	Traditional	OPAD date	OPAD	Procedure duration (s)	MS Score	BR date	White blood cell count (G/L)	Lymphocyte count (G/L)	Lymphocyte percentage (%)	CRP date	CRP (mg/L)	IL-6 date	IL-6 (pg/L)	Antibody date	IgM	IgG	Last chest CT	Admission date	hospitalization time
1	Female	50	2	2020/3/19	-	2020/3/21	-	15	1	2020/3/20	7.86	1.71	21.7	2020/3/16	0.70	2020/3/15	1.50	NA	NA	NA	ameliorated	2020/2/3	47
2	Female	48	3	2020/3/16	-	2020/3/19	-	17	1	2020/3/13	4.84	1.49	30.9	2020/3/13	1.23	2020/3/15	6.96	2020/3/20	-	+	ameliorated	2020/3/12	7
3	Male	72	1	2020/3/17	-	2020/3/18	+	25	3	2020/3/18	8.49	0.87	10.3	2020/3/18	1.05	NA	NA	NA	NA	NA	ameliorated	2020/2/14	33
4	Male	38	2	2020/3/16	-	2020/3/18	-	65	1	2020/3/16	7.45	1.58	21.2	2020/3/16	1.81	2020/3/15	3.00	2020/3/20	-	+	ameliorated	2020/2/20	27
5	Male	73	2	2020/3/13	+	2020/3/15	+	19	1	2020/3/20	6.80	0.87	12.8	2020/3/20	1.07	2020/3/20	4.90	2020/3/20	+	+	ameliorated	2020/2/15	29
6	Female	67	3	2020/3/16	-	2020/3/19	-	20	2	2020/3/19	4.29	1.89	43.9	2020/3/19	11.39	2020/3/16	30.91	2020/3/16	-	+	ameliorated	2020/2/7	41
7	Male	69	4	2020/3/11	+	2020/3/15	+	22	1	2020/3/20	3.23	1.91	36.6	NA	NA	2020/3/11	6.63	NA	NA	NA	ameliorated	2020/2/8	36
8	Male	61	1	2020/3/18	+	2020/3/19	-	19	1	2020/3/18	7.63	1.66	21.7	2020/3/18	5.81	2020/3/16	23.36	2020/3/18	+	+	ameliorated	2020/2/6	42
9	Male	55	2	2020/3/14	+	2020/3/16	+	18	2	2020/3/16	6.60	1.97	32.5	2020/3/16	1.37	2020/3/16	1.50	2020/3/14	-	+	ameliorated	2020/2/5	40
10	Male	44	2	2020/3/13	+	2020/3/15	+	9	1	2020/3/14	8.97	1.64	32	2020/3/14	3.64	2020/3/12	1.50	NA	NA	NA	ameliorated	2020/2/7	37
11	Female	64	8	2020/3/11	+	2020/3/19	+	18	1	2020/3/19	8.20	2.52	40.6	2020/3/5	0.10	2020/3/19	5.96	2020/3/15	-	+	ameliorated	2020/2/10	38
12	Male	65	5	2020/3/14	-	2020/3/19	-	15	1	2020/3/20	5.74	1.43	24.8	2020/3/20	2.09	2020/3/17	5.16	NA	NA	NA	ameliorated	2020/2/1	47
13	Female	62	1	2020/3/15	-	2020/3/16	-	17	1	2020/3/16	5.33	1.46	27.3	2020/3/9	64.25	2020/3/16	9.30	2020/3/16	-	+	ameliorated	2020/2/3	42
14	Female	32	2	2020/3/18	+	2020/3/20	+	24	1	2020/3/15	10.51	1.40	13.3	NA	NA	2020/3/19	4.70	2020/3/20	-	+	ameliorated	2020/2/19	30
15	Female	31	3	2020/3/14	+	2020/3/17	+	20	1	2020/3/14	4.82	2.03	42.1	NA	NA	2020/3/18	4.58	2020/3/10	-	+	ameliorated	2020/2/16	30
16	Female	79	1	2020/3/15	-	2020/3/16	+	26	2	2020/3/18	17.87	0.89	5	2020/3/16	76.76	2020/3/18	132.81	2020/3/18	-	-	no significant change	2020/3/2	14
17	Female	69	2	2020/3/14	-	2020/3/16	-	22	2	2020/3/19	5.00	2.22	44.3	2020/3/19	0.10	2020/3/18	37.12	2020/3/18	+	+	ameliorated	2020/2/26	19
18	Male	68	4	2020/3/16	-	2020/3/20	-	23	1	2020/3/8	6.25	1.46	29.3	2020/3/8	8.67	2020/3/16	5.89	2020/3/14	-	+	ameliorated	2020/2/6	43
19	Female	68	2	2020/3/17	-	2020/3/19	-	27	1	2020/3/17	4.90	1.25	25.5	NA	NA	2020/3/17	1.86	NA	NA	NA	ameliorated	2020/2/9	39
20	Male	55	2	2020/3/15	-	2020/3/17	+	19	1	2020/3/12	5.88	1.59	27.4	2020/3/16	8.54	2020/3/16	9.46	NA	NA	NA	ameliorated	2020/2/9	37
21	Male	78	2	2020/3/13	+	2020/3/15	+	24	1	2020/3/17	2.74	0.96	11.3	2020/3/17	1.59	2020/3/13	43.61	NA	NA	NA	deteriorated	2020/2/9	35
22	Male	63	3	2020/3/12	+	2020/3/15	+	15	1	2020/3/13	9.46	1.66	15.4	2020/3/17	6.13	2020/3/17	7.53	NA	NA	NA	ameliorated	2020/2/9	35

Table S2 Comparison of qRT-PCR results for OPAD in pharyngeal swabs and chest CT

Chest CT (n=22)	OPAD		Total
	Positive	Negative	
Not ameliorate	2 (9.09%)	0 (0%)	2 (9.09%)
Ameliorate	10 (45.45%)	10 (45.45%)	20 (90.91%)
Total	12 (54.55%)	10 (45.45%)	22