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Supplementary appendix

This appendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

This online publication has been corrected. The corrected version first appeared at thelancet.com on March 12, 2020.


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Supplementary Table 1. Comorbidities of enrolled patients

Variable	Count
CHD	3
COPD	1
Carcinoma	1
Diabetes	13
Hypertension	30
Others	12
COPD + Carcinoma	1
Diabetes + Others	2
Hypertension + CHD	4
Hypertension + COPD	1
Hypertension + Diabetes	12
Hypertension + Others	4
Diabetes + CHD + CKD	1
Hypertension + Diabetes + CHD	3
Hypertension + Diabetes + Others	1
Diabetes + CHD + COPD + Others	1
Hypertension + Diabetes + CHD + Others	1
Hypertension + Diabetes + CHD + COPD + CKD	1
Hypertension + Diabetes + CHD + COPD + Others	1

Abbreviation: CHD, coronary heart disease; COPD, chronic obstructive pulmonary disease; CKD, chronic kidney disease.

Supplementary Table 2. Characteristics, interventions and outcomes of the study population in Wuhan Pulmonary Hospital and Jinyintan Hospital


Characteristics	Total N = 191	Wuhan Pulmonary Hospital N = 56	Jinyintan Hospital N = 135	P
Age (yrs)	56.0 (46.0, 67.0)	55.5 (47.0, 66.0)	56.0 (46.0, 67.0)	0.93
Male	119/191 (62%)	33/56 (59%)	86/135 (64%)	0.54
Exposure history	73/191 (38%)	23/56 (41%)	50/135 (37%)	0.60
Current smoking	11/191 (6%)	4/56 (7%)	7/135 (5%)	0.60
Comorbidities	91/191 (48%)	31/56 (55%)	60/135 (44%)	0.17
Hypertension	58/191 (30%)	16/56 (29%)	42/135 (31%)	0.73
Diabetes	36/191 (19%)	13/56 (23%)	23/135 (17%)	0.32
Coronary heart disease	15/191 (8%)	6/56 (11%)	9/135 (7%)	0.36
Chronic obstructive lung disease	6/191 (3%)	1/56 (2%)	5/135 (4%)	0.47
Carcinoma	2/191 (1%)	1/56 (2%)	1/135 (1%)	0.52
Chronic kidney disease	2/191 (1%)	0/56 (0%)	2/135 (1%)	0.36
Others	22/191 (12%)	7/56 (13%)	15/135 (11%)	0.78
Respiratory rate > 24 /min	56/191 (29%)	5/56 (9%)	51/135 (38%)	<.0001
Pulse ≥ 125 beats/min	2/191 (1%)	1/56 (2%)	1/135 (1%)	0.52
Systolic blood pressure < 90 mmHg	1/191 (1%)	0/56 (0%)	1/135 (1%)	0.52
Fever (Temperature ≥ 37.3 °C)	180/191 (94%)	54/56 (96%)	126/135 (93%)	0.38
Cough	151/191 (79%)	43/56 (77%)	108/135 (80%)	0.62
Sputum	44/191 (23%)	12/56 (21%)	32/135 (24%)	0.73
Myalgia	29/191 (15%)	7/56 (13%)	22/135 (16%)	0.51
Fatigue	44/191 (23%)	13/56 (23%)	31/135 (23%)	0.97
Diarrhea	9/191 (5%)	4/56 (7%)	5/135 (4%)	0.32
Nausea or vomiting	7/191 (4%)	1/56 (2%)	6/135 (4%)	0.34
Laboratory findings				
White blood cell count (× 10 ⁹ /L)	6.2 (4.5, 9.5)	4.8 (3.7, 7.9)	6.9 (4.9, 10.3)	0.0002
4-10	119/191 (62%)	35/56 (63%)	84/135 (62%)	0.0003
<4	32/191 (17%)	17/56 (30%)	15/135 (11%)	
>10	40/191 (21%)	4/56 (7%)	36/135 (27%)	
Lymphocyte count (× 10 ⁹ /L)	1.0 (0.6, 1.3)	1.0 (0.8, 1.3)	0.9 (0.6, 1.3)	0.31
< 0.8	77/191 (40%)	19/56 (34%)	58/135 (43%)	0.25
Hemoglobin (g/dl) 	128.0 (119.0, 140.0)	129.0 (122.0, 141.5)	127.0 (117.0, 139.0)	0.18
Anemia	29/191 (15%)	5/56 (9%)	24/135 (18%)	0.12
Platelet count (× 10 ⁹ /L)	206.0 (155.0, 262.0)	197.5 (152.5, 242.0)	217.0 (155.0, 272.0)	0.16
< 100	13/191 (7%)	4/56 (7%)	9/135 (7%)	0.91
Albumin (g/L)	32.3 (29.1, 35.8)	36.0 (33.0, 38.2)	30.7 (28.0, 34.2)	<.0001
Alanine transaminase (U/L)	30.0 (17.0, 46.0)	19.5 (13.0, 32.0)	34.0 (22.0, 51.0)	<.0001

Characteristics	Total N = 191	Wuhan Pulmonary Hospital N = 56	Jinyintan Hospital N = 135	P
> 40	59/189 (31%)	9/54 (17%)	50/135 (37%)	0.0063
Creatinine > 133 (μmol/L)	8/186 (4%)	1/51 (2%)	7/135 (5%)	0.30
Lactate dehydrogenase (U/L)	300.0 (234.0, 407.0)	249.0 (224.0, 318.0)	323.0 (241.0, 452.0)	0.0021
> 245	123/184 (67%)	26/49 (53%)	97/135 (72%)	0.017
Creatine kinase (U/L)	21.5 (13.0, 72.4)	62.2 (41.0, 201.0)	17.5 (12.0, 44.0)	<.0001
> 185	22/168 (13%)	10/36 (28%)	12/132 (9%)	0.0063
Cardiac Troponin I (ng/ml)	4.1 (2.0, 14.1)	3.0 (3.0, 3.0)	4.8 (1.8, 16.2)	0.47
> 28	24/145 (17%)	0/13 (0%)	24/132 (18%)	0.026
Prothrombin time (s)	11.6 (10.6, 13.0)	13.6 (12.6, 14.5)	11.1 (10.3, 11.9)	<.0001
< 16	171/182 (94%)	40/47 (85%)	131/135 (97%)	0.0063
≥ 16	11/182 (6%)	7/47 (15%)	4/135 (3%)	
D-dimer (μg/L) 	0.8 (0.4, 3.2)	0.3 (0.2, 0.9)	1.0 (0.5, 3.8)	<.0001
> 0.5	45/172 (26%)	6/37 (16%)	39/135 (29%)	<.0001
> 1	72/172 (42%)	6/37 (16%)	66/135 (49%)	
Serum Ferritin (μg/L)	722.0 (377.2, 1435.3)	NA	722.0 (377.2, 1435.3)	NA
> 300	102/128 (80%)	NA	102/128 (80%)	NA
Procalcitonin (ng/mL)	0.1 (0.1, 0.1)	0.0 (0.0, 0.1)	0.1 (0.1, 0.1)	<.0001
Interleukin 6 (pg/mL)	7.4 (5.3, 10.8)	NA	7.4 (5.3, 10.8)	NA
< 0.1	114/164 (70%)	21/30 (70%)	93/134 (69%)	0.97
< 0.25	30/164 (18%)	6/30 (20%)	24/134 (18%)	
< 0.5	6/164 (4%)	1/30 (3%)	5/134 (4%)	
≥ 0.5	14/164 (9%)	2/30 (7%)	12/134 (9%)	
Imaging features				
Consolidation	112/191 (59%)	28/56 (50%)	84/135 (62%)	0.12
Ground-glass opacity	136/191 (71%)	47/56 (84%)	89/135 (66%)	0.012
Bilateral pulmonary infiltration	143/191 (75%)	54/56 (96%)	89/135 (66%)	<.0001
Treatments				
Antibiotic	181/191 (95%)	52/56 (93%)	129/135 (96%)	0.46
Antiviral	41/191 (21%)	15/56 (27%)	26/135 (19%)	0.25
Corticosteroid	57/191 (30%)	24/56 (43%)	33/135 (24%)	0.011
Intravenous immunoglobulin	46/191 (24%)	8/56 (14%)	38/135 (28%)	0.041
High-flow nasal cannula oxygen therapy	41/191 (21%)	6/56 (11%)	35/135 (26%)	0.020
Noninvasive mechanical ventilation	26/191 (14%)	2/56 (4%)	24/135 (18%)	0.0092
Invasive mechanical ventilation	32/191 (17%)	6/56 (11%)	26/135 (19%)	0.15
ECMO	3/191 (2%)	0/56 (0%)	3/135 (2%)	0.26
Renal replacement therapy	10/191 (5%)	1/56 (2%)	9/135 (7%)	0.13
SOFA	2.0 (1.0, 4.0)	1.5 (0.0, 3.0)	2.0 (1.0, 4.0)	0.0012
CURB-65	0.0 (0.0, 2.0)	0.0 (0.0, 1.0)	0.0 (0.0, 2.0)	0.24
0-1	141/188 (75%)	46/53 (87%)	95/135 (70%)	0.016
2	32/188 (17%)	3/53 (6%)	29/135 (21%)	

Characteristics	Total N = 191	Wuhan Pulmonary Hospital N = 56	Jinyintan Hospital N = 135	P
3-5	15/188 (8%)	4/53 (8%)	11/135 (8%)	
Duration from illness onset to admission	11.0 (8.0, 14.0)	9.5 (7.0, 13.0)	11.0 (8.0, 14.0)	0.0061
Duration from illness onset to fever	1.0 (1.0, 1.0)	1.0 (1.0, 3.0)	1.0 (1.0, 1.0)	0.027
Duration from illness onset to cough	1.0 (1.0, 3.0)	1.0 (1.0, 3.5)	1.0 (1.0, 3.0)	0.79
Duration from illness onset to dyspnea	7.0 (4.0, 9.0)	5.5 (2.0, 9.0)	7.0 (4.0, 10.0)	0.43
Duration from illness onset to ARDS	12.0 (8.0, 15.0)	11.0 (7.5, 14.5)	12.0 (8.0, 15.0)	0.65
ICU admission	50/191 (26%)	6/56 (11%)	44/135 (33%)	0.0017
Hospital length of stay (days)	11.0 (7.0, 14.0)	9.0 (5.0, 13.5)	11.0 (8.0, 15.0)	0.073
ICU length of stay (days)	8.0 (4.0, 12.0)	10.0 (6.0, 21.0)	7.5 (3.5, 11.5)	0.55
Death	54/191 (28%)	8/56 (14%)	46/135 (34%)	0.0057

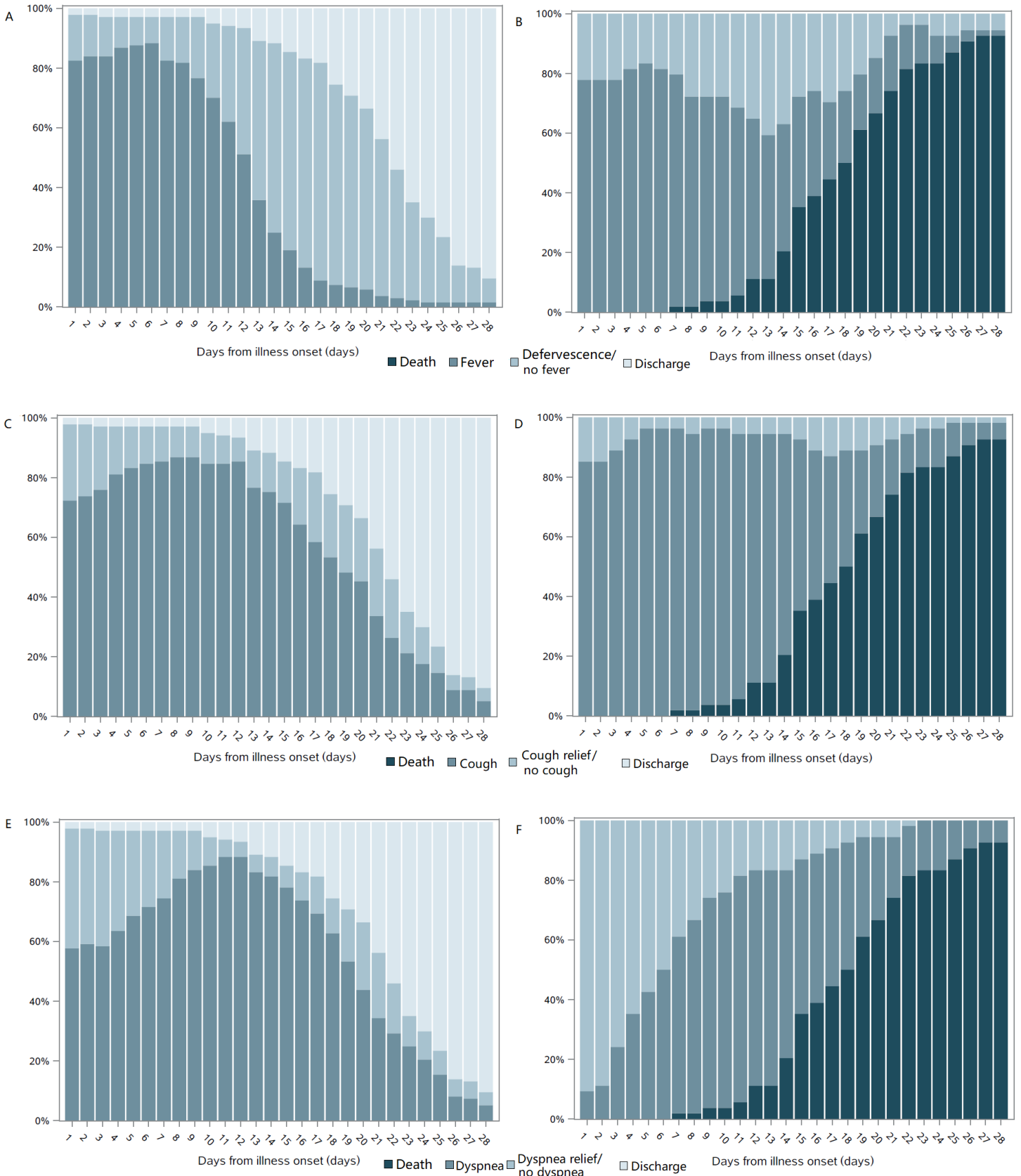
Note. Data were as median (IQR) or number (proportion). P values were calculated by Mann-Whitney U test, χ^2 test or Fisher's exact test where appropriate. Abbreviation: SOFA, sequential organ failure assessment; ICU, intensive care unit; ARDS, acute respiratory distress syndrome.

Supplementary Table 3. Risk factors associated with in-hospital death for study patients in generalized linear model

Parameter	Level	Estimate	Standard Error	P value
Intercept		-12.73	3.1	<.0001
Age		0.096	0.033	0.0040
Coronary heart disease	No	Ref		
	Yes	1.00	1.16	0.3857
SOFA		1.73	0.40	<.0001
Lymphocyte count ($\times 10^9/L$)		-1.63	1.11	0.14
D-dimer ($\mu g/L$) 	≤ 0.5	Ref		
	> 0.5	0.58	1.23	0.64
	> 1	2.67	1.05	0.011

Note: the generalized linear model has been adjusted for study center; SOFA, sequential organ failure assessment;

Supplementary Figure 1. Clinical courses of different symptoms in survivors and non-survivors.



- 1A. The dynamic proportions of cases with fever, defervescence/no fever, or discharge in survivors.
- 1B. The dynamic proportions of cases with defervescence/no fever, fever, or death in non-survivors.
- 1C. The dynamic proportions of cases with cough, cough relief/no cough, or discharge in survivors.
- 1D. The dynamic proportions of cases with cough relief/no cough, cough, or death in non-survivors.
- 1E. The dynamic proportions of cases with dyspnea, dyspnea relief/no dyspnea, or discharge in survivors.
- 1F. The dynamic proportions of cases with dyspnea relief/no dyspnea, dyspnea, or death in non-survivors.