

Article

Influence of the COVID-19 Outbreak in Vulnerable Patients (Pediatric Patients, Pregnant Women, and Elderly Patients) on an Emergency Medical Service System: A Pre- and Post-COVID-19 Pandemic Comparative Study Using the Population-Based ORION Registry

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Table S1. Multivariate logistic regression analysis of difficult-to-transport cases among all patients (adult as a variable).

	Odds Ratio	95%CI		p-Value
Year				
2019	Reference			
2021	1.40	1.38	– 1.41	<0.001
Female (compared with male)	0.94	0.92	– 0.96	<0.001
Month				
June	Reference			
January	1.93	1.83	– 2.03	<0.001
February	1.56	1.48	– 1.65	<0.001
March	1.27	1.20	– 1.35	<0.001
April	1.66	1.57	– 1.75	<0.001
May	1.60	1.51	– 1.69	<0.001
July	1.01	0.95	– 1.07	0.866
August	1.29	1.22	– 1.37	<0.001
September	1.29	1.22	– 1.37	<0.001
October	1.02	0.96	– 1.09	0.457
November	1.03	0.97	– 1.10	0.329
December	1.09	1.02	– 1.15	0.006
Weekends (compared with weekdays)	1.18	1.16	– 1.21	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.47	2.41	– 2.53	<0.001
Adult (age >15 y and <65 y)	1.22	1.20	– 1.25	<0.001
COVID-19 (including suspected cases)	1.41	1.33	– 1.50	<0.001

Table S2. Multivariate logistic regression analysis of difficult-to-transport cases among all patients in 2019 and 2021 (pediatric patients, pregnant women, elderly patients, and vulnerable population as a variable).

Pediatric patients as a variable

2019

	Odds ratio	95%CI	P-value
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Female (compared with male)	0.88	0.85	–	0.91	<0.001
Month					
June	Reference				
January	2.03	1.87	–	2.20	<0.001
February	1.65	1.51	–	1.80	<0.001
March	1.38	1.26	–	1.51	<0.001
April	1.26	1.15	–	1.38	<0.001
May	1.17	1.06	–	1.28	0.001
July	0.95	0.86	–	1.04	0.25
August	1.06	0.97	–	1.16	0.196
September	0.94	0.85	–	1.04	0.219
October	0.98	0.89	–	1.08	0.629
November	1.02	0.93	–	1.12	0.711
December	1.11	1.01	–	1.21	0.03
Weekends (compared with weekdays)	1.24	1.19	–	1.29	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.95	2.83	–	3.08	<0.001
Children (compared with adult >15 y)	0.37	0.34	–	0.41	<0.001
COVID-19 (including suspected cases)	(omitted)				
2021					
Female (compared with male)	0.93	0.90	–	0.96	<0.001
Month					
June	Reference				
January	1.75	1.63	–	1.88	<0.001
February	1.44	1.33	–	1.55	<0.001
March	1.16	1.08	–	1.25	<0.001
April	1.92	1.79	–	2.07	<0.001
May	1.91	1.78	–	2.06	<0.001
July	1.04	0.96	–	1.12	0.319
August	1.44	1.34	–	1.55	<0.001
September	1.50	1.40	–	1.62	<0.001
October	1.03	0.96	–	1.12	0.411
November	1.01	0.93	–	1.09	0.873
December	1.04	0.96	–	1.12	0.332
Weekends (compared with weekdays)	1.16	1.12	–	1.19	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.35	2.28	–	2.42	<0.001
Pediatric patients (compared with adult >15 y)	0.29	0.27	–	0.32	<0.001
COVID-19 (including suspected cases)	1.30	1.22	–	1.38	<0.001
Pregnant women as a variable					
2019					
Female (compared with male)	0.90	0.87	–	0.93	<0.001
Month					
June	Reference				
January	2.03	1.87	–	2.20	<0.001
February	1.66	1.52	–	1.82	<0.001
March	1.39	1.27	–	1.52	<0.001
April	1.27	1.16	–	1.39	<0.001
May	1.17	1.07	–	1.28	0.001
July	0.95	0.86	–	1.05	0.306
August	1.08	0.99	–	1.18	0.1

September	0.95	0.87	–	1.05	0.34
October	0.99	0.90	–	1.09	0.863
November	1.04	0.94	–	1.14	0.47
December	1.12	1.02	–	1.22	0.018
Weekends (compared with weekdays)	1.23	1.19	–	1.28	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.93	2.82	–	3.06	<0.001
Pregnant women	0.44	0.25	–	0.77	0.004
COVID-19 (including suspected cases)	(omitted)				
2021					
Female (compared with male)	0.95	0.92	–	0.98	<0.001
Month					
June	Reference				
January	1.81	1.68	–	1.94	<0.001
February	1.48	1.37	–	1.59	<0.001
March	1.19	1.10	–	1.28	<0.001
April	1.94	1.80	–	2.08	<0.001
May	1.92	1.79	–	2.07	<0.001
July	1.05	0.98	–	1.14	0.172
August	1.47	1.37	–	1.58	<0.001
September	1.54	1.43	–	1.66	<0.001
October	1.05	0.97	–	1.14	0.189
November	1.03	0.95	–	1.11	0.498
December	1.06	0.98	–	1.15	0.116
Weekends (compared with weekdays)	1.15	1.12	–	1.18	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.32	2.26	–	2.40	<0.001
Pregnant women	0.52	0.33	–	0.81	0.004
COVID-19 (including suspected cases)	1.36	1.28	–	1.45	<0.001
Elderly patients as a variable					
2019					
Female (compared with male)	0.91	0.87	–	0.94	<0.001
Month					
June	Reference				
January	2.04	1.88	–	2.22	<0.001
February	1.67	1.53	–	1.83	<0.001
March	1.40	1.28	–	1.53	<0.001
April	1.27	1.16	–	1.39	<0.001
May	1.17	1.07	–	1.29	0.001
July	0.95	0.86	–	1.05	0.299
August	1.08	0.99	–	1.18	0.095
September	0.96	0.87	–	1.05	0.357
October	0.99	0.90	–	1.10	0.915
November	1.04	0.95	–	1.15	0.399
December	1.12	1.02	–	1.23	0.015
Weekends (compared with weekdays)	1.23	1.18	–	1.28	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.89	2.77	–	3.01	<0.001
Old (compared with young <65 y)	0.87	0.84	–	0.90	<0.001
COVID-19 (including suspected cases)	(omitted)				
2021					
Female (compared with male)	0.94	0.91	–	0.97	<0.001

Month					
June	Reference				
January	1.79	1.67	–	1.92	<0.001
February	1.47	1.36	–	1.58	<0.001
March	1.18	1.10	–	1.28	<0.001
April	1.93	1.80	–	2.08	<0.001
May	1.92	1.79	–	2.06	<0.001
July	1.06	0.98	–	1.14	0.165
August	1.48	1.37	–	1.59	<0.001
September	1.54	1.43	–	1.66	<0.001
October	1.05	0.97	–	1.14	0.208
November	1.02	0.95	–	1.11	0.556
December	1.06	0.98	–	1.14	0.144
Weekends (compared with weekdays)	1.15	1.12	–	1.19	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.35	2.28	–	2.42	<0.001
Old (compared with young <65 y)	1.11	1.08	–	1.14	<0.001
COVID-19 (including suspected cases)	1.37	1.29	–	1.46	<0.001
Vulnerable patients as a variable					
2019					
	Odds ratio	95%CI			P-value
Female (compared with male)	0.91	0.88	–	0.95	<0.001
Month					
June	Reference				
January	2.07	1.90	–	2.24	<0.001
February	1.68	1.54	–	1.83	<0.001
March	1.40	1.28	–	1.53	<0.001
April	1.27	1.16	–	1.39	<0.001
May	1.17	1.07	–	1.29	0.001
July	0.95	0.86	–	1.04	0.266
August	1.07	0.98	–	1.18	0.13
September	0.95	0.86	–	1.05	0.308
October	0.99	0.90	–	1.09	0.877
November	1.04	0.95	–	1.15	0.384
December	1.12	1.02	–	1.23	0.014
Weekends (compared with weekdays)	1.23	1.18	–	1.28	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.82	2.70	–	2.93	<0.001
Vulnerable patients (compared with non-vulnerable)	0.69	0.67	–	0.72	<0.001
COVID-19 (including suspected cases)	(omitted)				
2021					
Female (compared with male)	0.95	0.93	–	0.98	<0.001
Month					
June	Reference				
January	1.81	1.69	–	1.95	<0.001
February	1.48	1.37	–	1.60	<0.001
March	1.19	1.10	–	1.28	<0.001
April	1.94	1.81	–	2.08	<0.001
May	1.92	1.79	–	2.07	<0.001
July	1.05	0.97	–	1.14	0.196

August	1.46	1.36	–	1.57	<0.001
September	1.54	1.43	–	1.65	<0.001
October	1.05	0.97	–	1.14	0.193
November	1.03	0.95	–	1.11	0.489
December	1.06	0.99	–	1.15	0.108
Weekends (compared with weekdays)	1.15	1.12	–	1.18	<0.001
Nighttime (17:00–09:00) (compared with daytime)	2.30	2.23	–	2.37	<0.001
Vulnerable patients (compared with non-vulnerable)	0.90	0.88	–	0.93	<0.001
COVID-19 (including suspected cases)	1.35	1.27	–	1.44	<0.001

Table S3. Multivariate logistic regression analysis of death in the ED for all patients (pediatric patients as a variable).

	Odds ratio	95% confidence interval			p-Value
Year					
2019	Reference				
2021	1.17	1.15	–	1.20	<0.001
Female (compared with male)	0.80	0.77	–	0.83	<0.001
Season					
Spring	Reference				
Summer	0.73	0.69	–	0.78	<0.001
Autumn	0.84	0.80	–	0.89	<0.001
Winter	1.19	1.13	–	1.25	<0.001
Weekends (compared with weekdays)	0.97	0.93	–	1.01	0.18
Nighttime (17:00–09:00) (compared with daytime)	1.41	1.35	–	1.46	<0.001
Children (compared with adult >15y)	0.08	0.06	–	0.10	<0.001
Covid-19 (including suspected cases)	0.23	0.18	–	0.30	<0.001