

Epidemiologic and clinical characteristics of patients with COVID-19 in hospitals in Sirjan at 2020

Dear Editor,

Given the necessity of identifying factors effective in mortality caused by COVID-19 to better control these factors, as well as prevention of death, we aimed to investigate epidemiologic and clinical characteristics in patients with COVID-19 in hospitals of Sirjan in 2020.

Patients with the acute respiratory disease of COVID-19 who were referred to Imam Reza Hospital and Dr. Gharazi Hospital were assessed. Patients with a positive COVID-19 test (positive RT-PCR) who were discharged from the hospital or expired were enrolled in the study. In total, 2117 patients enrolled in the study.

Epidemiologic and clinical information on patients on the MCMC system of Sirjan Medical Sciences faculty was extracted; finally, clinical characteristics were identified in patients with COVID-19. To gather data, a standard form was used, and a modified version of the form was a recording of the sample of the consortium of emerging infectious disease and acute respiratory diseases of the WHO.

The results of the current study showed that the mortality rate among patients hospitalized was 6.1%. Only 0.9% of patients were reinfected by COVID-19. 84.8% of those hospitalized were diagnosed with symptoms in their chest CT scan, and 89.3% of those who expired were with symptoms in chest CT scan; lesser than 1% of those who expired did not show symptoms in CT scan; in the rest of the patients, T scan was not performed. Out of 172 patients admitted to ICU, 69 (40%) expired. Forty patients (1.9%) had a history of cigarette use, but 2.3% of those who expired had a history of cigarette use. One hundred twenty-two patients (5.8%) had a history of opium use, and out of 131 patients who expired, 14 (10.7%) had a history of opium use.

The results showed that 29 patients hospitalized (1.4%) had a psychological disease, whereas four patients (3.1%) of the patients who expired had mental diseases. Eighteen patients hospitalized (0.9%) were with carcinoma, whereas five patients (3.8%) who had died developed such complications. The results showed that 1197 patients hospitalized (56.5%) had SPO2 lesser than 93%, whereas the prevalence of this index in

those who expired was 83.2% and among 131 patients who expired, 109 individuals had SPO2 lesser than 93% [Table 1].

Given the findings of the current study, the mortality rate of patients with COVID-19 was 6.1%, which was in line with global reports. In one study in Italy, the mortality rate was reported as 702%.^[1] However, some studies reported lesser rates.^[2,3]

According to the findings of the current study, gender has a slight effect on hospitalization and mortality, but according to one case study which evaluated various countries regarding differences in women and men during the pandemics of COVID-19, in all studied countries, the rate of confirmed infection and also mortality rate was higher in men.^[4]

According to the findings, lesser than 1% of hospitalized patients were reinfected by COVID-19. This finding is in line with the findings of other studies. Several studies investigated reinfection by COVID-19 and described the rate of reinfection by this disease very slightly.^[5] Some studies reject reinfection by a specific type of virus, and they stated that those who were reinfected by COVID-19 probably were infected by a new mutated type of virus.^[6]

According to the current study, cigarette and drug use increases the severity of disease in users, but its effect was not significant. Current epidemiologic findings show that active smoking is associated with an increase in disease severity and death in patients due to COVID-19 hospitalized in hospitals.^[7] The pieces of evidence showed that smoking is effective in causing cytokine storms.^[8]

Conclusions

The current study showed that the rate of mortality among patients hospitalized in the hospitals of Sirjan was 6.1%. High blood pressure, diabetes mellitus, heart coronary artery diseases, and chronic obstructive respiratory diseases were the most common underlying diseases among patients hospitalized and expired in the hospitals of Sirjan.

Table 1: Demographic, clinical, laboratory, and radiographic findings of patients

Variables	Overall n=2117	With mortality n=131	Without mortality n=1986	P
Age (year), Mean (SD)	50.58 (18.11)	66.58 (16.25)	49.52 (17.72)	<0.001
Hospital, n (%)				
Emam Reza	1186 (56)	82 (62.6)	1104 (55.6)	0.123
Gharazi	931 (44)	49 (37.4)	882 (44.4)	
Gender, n (%)				
Male	1005 (47.5)	65 (49.6)	940 (47.3)	0.652
Female	1112 (52.5)	66 (50.4)	1046 (52.7)	
Contact history, n (%)				
yes	1048 (49.5)	58 (44.3)	990 (49.8)	0.241
no	1069 (50.5)	73 (55.7)	996 (50.2)	
Reinfection, n (%)				
yes	18 (0.9)	0	18 (0.9)	
no	2099 (99.1)	131 (100)	1968 (99.1)	
Imaging features, n/N (%)				
With symptoms	1796/2078 (86.4)	117/118 (99.1)	1679/1960 (85.6)	<0.001
No symptoms	282/2078 (13.6)	1/118 (0.84)	281/1960 (14.3)	
ICU admission				
Yes	172 (8.12)	69 (52.7)	103 (5.1)	<0.001
Smoking history, n (%)				
Yes	40 (1.9)	3 (2.3)	37 (1.9)	0.735
No	2077 (98.1)	128 (97.7)	1949 (98.1)	
History of narcotics, n (%)				
yes	122 (5.8)	14 (10.7)	108 (5.4)	0.019
no	1995 (94.2)	117 (89.3)	1878 (94.6)	
Comorbidity				
Hypertension	437 (20.6)	42 (32.1)	395 (19.9)	0.002
Diabetes	319 (15.1)	30 (22.9)	289 (14.6)	0.012
Coronary heart disease	177 (8.4)	24 (18.3)	153 (7.7)	<0.001
Chronic obstructive lung disease	76 (3.6)	13 (9.9)	63 (3.2)	0.001
Asthma	34 (1.6)	1 (0.8)	33 (1.7)	0.720
Chronic kidney disease	26 (1.2)	6 (4.6)	20 (1.0)	0.004
Dialysis status	10 (0.5)	2 (1.5)	8 (0.4)	
Carcinoma	18 (0.9)	5 (3.8)	13 (0.7)	0.004
Liver disease	16 (0.8)	3 (2.3)	13 (0.7)	0.072
Chronic blood diseases	6 (0.3)	1 (0.8)	5 (0.3)	0.319
Mental illness	29 (1.4)	4 (3.1)	25 (1.3)	0.100
Pregnant	8 (0.4)	0	8 (0.4)	
Clinical symptoms				
Dyspnea	1017 (48)	74 (56.5)	943 (47.5)	0.219
Cough	986 (46.6)	51 (38.9)	935 (47.1)	0.071
Chest pain	216 (10.2)	8 (6.1)	208 (10.5)	0.102
Myalgia	868 (41.0)	35 (26.7)	833 (41.9)	0.001
Fatigue	94 (34.9)	5 (12.8)	89 (38.7)	0.002
headache	404 (19.1)	12 (9.2)	392 (19.7)	0.003
vertigo	63 (3.0)	5 (3.8)	58 (2.9)	0.592
paresis	6 (0.3)	1 (0.8)	5 (0.3)	
Sputum	54 (20.1)	6 (15.4)	48 (20.9)	0.429
respiratory distress	1017 (48)	74 (56.5)	943 (47.5)	0.047
Anosmia	60 (2.8)	0	60 (3)	0.051
hypogeusia	23 (1.2)	0	23 (1.2)	0.395
epilepsy	5 (0.2)	0	5 (0.2)	
nausea	153 (7.2)	9 (6.9)	144 (7.3)	0.867
Vomit	114 (5.4)	7 (5.3)	107 (5.4)	1.000
Diarrhea	104 (4.9)	1 (0.8)	103 (5.2)	0.034
stomach ache	45 (2.1)	4 (3.1)	41 (2.1)	0.361

Contd...

Table 1: Contd...

Variables	Overall n=2117	With mortality n=131	Without mortality n=1986	P
Anorexia	141 (6.7)	9 (6.9)	132 (6.6)	1.000
low of consciousness	102 (4.8)	32 (24.4)	70 (3.5)	<0.001
Vital sign, n/N (%)				
SPO ₂ (<93%)	1197 (56.5)	109 (83.2)	1088 (54.8)	<0.001
Body Temperature (>37.3°C)	737 (34.8)	37 (28.2)	700 (35.2)	0.108
Mechanical Ventilation	129 (6.1)	45 (34.4)	84 (4.2)	<0.001

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Conflicts of interest

There are no conflicts of interest.

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