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nausea, diarrhea, headache, fatigue, muscle ache, loss of smell, loss of taste, loss of appetite, Shortness Of Breath (SOB), co-morbid condition and contact with COVID-19 patients was noted.

#### **RNA extraction and RT-PCR**

objectives of the study were explained to all study participants in

0.034), chills (OR 3.50; p-value 0.0005), diarrhea (OR 2.09; p-value 0.034), headache (OR, 14.80, p-value 0.0001) and loss of appetite (OR, 3.79, p-value 0.034) were associated with disease severity in moderate cases as compared to mild cases (Table 2).

shedding from symptoms onset to diagnosis was 6 days (IQ 4-8 days; range 2-10 days) while for the mild cases median was 8 days (IQ 6-10 days; range 4-11 days). Viral load was sttic3 (s)-5(t)-5 (ic -2.9 (a)15 (l)15 (l)1

Risk factors	Odds ratio	95 % CI (lower-upper)	p-value
Fever	4.35	1.50-12.58	0.006
Cough	12.38	5.53-27.71	0.0001
Expectoration	7.54	2.51-22.58	0.003
Sore Throat	8.5	3.70-19.56	0.0001
Runny Nose	1.58	0.73-3.43	0.239
Shortness of Breadth	3.02	1.08-8.45	0.034
Chills	3.5	1.73-7.07	0.0005
Vomiting	1.57	0.76-3.24	0.218
Nausea	1.47	0.73-2.95	0.274
Diarrhea	2.09	1.05-4.14	0.034
Headache	14.8	6.45-33.96	0.0001
Loss of Smell	0.81	0.34-1.93	0.645
Loss of Tase	0.81	0.34-1.93	0.645
Fatigue	1.55	0.50-4.70	0.441
Muscle ache	0.98	0.43-2.23	0.975
Loss of appetite	3.79	1.55-9.21	0.003
Exposure hisory	4.21	0.74-23.82	0.103

**Table 2:** Risk factors analysis for COVID-19 cases.

### Viral kinetics of symptomatic and asymptomatic cases

To observe the difference between the viral load of moderate, mild and asymptomatic cases, scatter plot was plotted for the Ct values.

The mean Ct value for moderate cases (median 25.03, 95% CI 23.83-26.81) was significantly lower than that of mild (median 35.93, 95%CI 35.57-36.23) and asymptomatic cases (median 38.92, 95% CI 38.96-40.07) (p-value <0.001). Similarly, the mean Ct value of mild cases was significantly lower than asymptomatic cases (p-value <0.001). As Ct value is inversely proportional to the viral load, this data shows that viral load was directly related to disease severity as the viral load of moderate case was observed to be significantly higher than that of mild and asymptomatic cases (Figure 3).

### Relationship between 'symptoms to test' interval and virus detection

There were 152 symptomatic cases for which the dates of onset of symptoms and diagnosis were known. Median duration of viral

## Discussion

COVID-19 pandemic is a major issue in public health since the emergence of the novel virus in 2019. Most patients reported throughout the world are observed to be of mild to moderate severity [24]. In this study, we have comprehensively studied the relationship between disease severity and clinical indicators. We included 150 cases with moderate and mild disease and 29 cases without any symptoms at the time of diagnosis but developed the symptoms after an average of 14 days. As expected, there were more male than female cases in all three categories. Clinical symptoms that were significantly related to the disease severity were fever, cough, expectoration, runny nose, nausea, loss of smell, loss of taste, fatigue, muscle ache, loss of appetite and exposure to high-risk settings. Laboratory parameters, GGOs, serology and in vitro tests were the most common abnormalities with bilateral involvement of the lungs. The most common abnormalities with bilateral involvement of the lungs were consolidation and ground glass opacities. The most common abnormalities with bilateral involvement of the lungs were consolidation and ground glass opacities.

[28]. Viral load studies have shown a peak in viral load close to onset of

course of COVID-19 is dependent on multiple factors including onset of symptoms, the duration of exposure, incubation and detection time, the symptomatic phase and an asymptomatic phase until virus becomes undetectable. Despite the low severity of the described cases, the course of the disease was remarkably long [17].

## Conclusion

The mean time from symptom onset to two negative RT-PCR tests for moderate cases was 17.59 days (95% CI 16.39-18.80), mild cases 12.67 days (95% CI 11.11-14.22) and for asymptomatic cases 12.21 days (95% CI 9.40-15.01). The course of COVID-19 is dependent on multiple factors including onset of symptoms, the duration of exposure, incubation and detection time, the symptomatic phase and an asymptomatic phase until virus becomes undetectable. Despite the low severity of the described cases, the course of the disease was remarkably long.

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## Conflict of Interest

None

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## Author Contribution

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Formal Analysis: AK, HA, SS

Investigation: AK, FA, HA, ST, SJ, SS

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