# ORIGINAL RESEARCH PAPER

## ASSESSMENT OF DISEASE SEVERITY AND PROGNOSIS IN COVID-19 PATIENTS BASED ON LUNG INVOLVEMENT IN TERTIARY CARE HOSPITALS IN CHENNAI

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### ABSTRACT

**Background:** Corona virus disease 2019 (COVID 19) is caused by severe acute respiratory syndrome corona virus 2 (SARS-CoV-2) infection. This disease, which is quickly spreading worldwide, has high potential for infection and causes rapid progression of lung lesions, resulting in a high mortality rate. This study aimed to assess the severity and prognosis in COVID-19 patients based on lung involvement (CT-Chest).

**Methods:** All lab confirmed cases of Covid 19 (RT-PCR positive) 369 patients admitted in Government Kilpauk medical college who were on follow up from October to November 2020, in Chennai were included. All patients underwent complete laboratory data including imaging studies - X-ray and CT-chest.

**Results:** Among 369 of the admitted patients, 67% were males, 38% in 20-40 years 36% in 40-60 years of age. Among that 280 (75.9%) had non severe disease, 89(24.12%) had severe disease. Regarding diseases outcome 38(10.3%) died and 331(89.7%) are alive. Compared to the patients with the stages of COVID-19:

- Asymptomatic (no lung involvement) - 28.4%  
- Mild – Stage I (score I to II – 5 to 25% area involved) - 36.3%  
- Moderate – Stage II (score II to IV – 25 to 50% area involved) - 22.5%  
- Severe – Stage III (score IV to V - more than 50% area involved) - 12.7%  

12.7% of patients need ICU admission & mechanical ventilation and 10.3% of patients succumbed to death.

**Conclusion:**

Ground glass opacities with or without consolidation usually of multi-focal, bilateral involvement, are noticed in the peripheral or subpleural distribution, posterior part or lower lobe predilection.

Atypical: Pleural effusion, Lymphadenopathy, fibrosis, Bronchiectasis, Nodules, Pericardial effusion, hallow sign, calcification, cavitation, pleural thickening, bronchial wall thickening.

According to CT Chest results, 4 stages in Covid 19 patients.

1. Early stage - 0-4 days,  
2. Progressive stage - 5-8 days,  
3. Peak stage - 8-13 days,  
4. Absorption stage - after 2 weeks of symptoms.

**METHODS:**

- **STUDY DESIGN AND PARTICIPANTS:** Retrospective study of lab confirmed RT-PCR positive 369 patients in Government Kilpauk medical college were conducted between October to November 2020.

**DATA SOURCES AND COLLECTION:**

Demographic data, encounter data, laboratory measurements, radiological studies, vital signs were collected from the hospital records and documented in a pre-structured proforma and statistical analysis was done.

**RESULTS:**

Vital signs and imaging of patients infected with SARS-CoV-2

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<th>SATURATION</th>
<th>ALL PATIENTS</th>
<th>NON-SEVERE</th>
<th>SEVERE</th>
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<tbody>
<tr>
<td>N - 369</td>
<td>299 (81%)</td>
<td>255 (85.3%)</td>
<td>44 (14.7%)</td>
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<td>N - 280</td>
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<td>N - 89</td>
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**KEYWORDS:** COVID-19, SARS-CoV-2, Viral pneumonia, ARDS


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