SUMMER TRAINING

IIHMR UNIVERSITY

FACTORS RESPONSIBLE FOR RT-PCR TESTED COVID POSITIVE PATIENT'S RECOVERY / DETERIORATION

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Introduction

- Corona viruses are the big family of virus that cause illness that may be a common cold to any severe disease.
- Started with infection among animals like bats, camels, cattle's etc.
- Wuhan outbreak – 70000 infected, more than 800 killed
- WHO declared it as pandemic on 11th March, 20
- Highly transmittable, reached India on 30th Jan, 21
- Second wave India has been reported to have largest number of cases in Asia.
- Daily highest number of positive cases globally and third highest number of daily deaths

- Second wave observed very high oxygen demand
- No definite effect of anti-viral drug has been known till date

Further Insight of Study:

- This is the study done on Covid patients admitted in max hospital, Shalimar Bagh, Delhi.
- The Admission Data was collected for duration of 35 days from 15th April 2021 to 20th May 2021
- It has a sample size of 200 patients.
- It mainly focusses on Covid patients with RT PCR tested positive and who had a longer stay in Hospital.

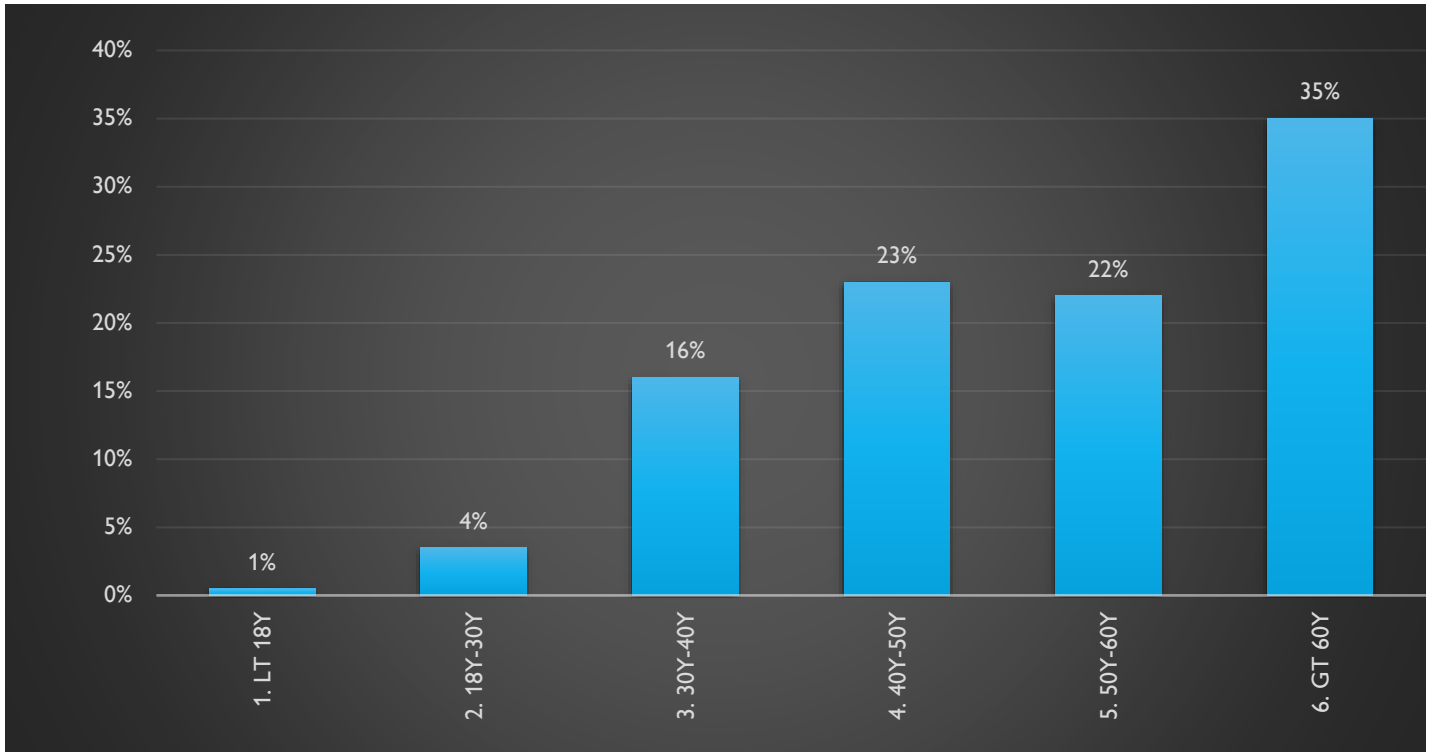
Methodology

- **Research Question:**
  What are the factors responsible for Covid positive patient's recovery / deterioration?
  Was there any specific treatment which could improve chances of recovery?
- **Objective of the study:** The purpose of the study is to know the factors effecting recovery/ deterioration in the second wave.
- **Study Duration:** 15th April 2021 to 20th May 2021.
- **Type of Data:** Primary Data Collection
- **Study Method:** Quantitative
- **Study Design:** Retrospective, Observational and Cross-sectional descriptive study.
- **Sampling Method:** The method selected for sampling was convenience sampling technique.
- **Sample Size:** A total of 200 RT- PCR positive patient was collected.
- **Inclusion Criteria:** Patients who tested positive by RT-PCR and were admitted in hospital between 15th April 2021 to 20th May 2021.
- **Exclusion Criteria:** Patient who tested positive by Rapid Antigen test and tested negative with Covid symptoms.

Tool and Technique used: The Admission data was collected from HIS and then audited from CPRS notes and was recorded in MS Excel. The data collected includes:

- SSN ID and Age
- Gender
- Date of admission and discharge
- Length of stay
- Discharge status
- Comorbidites
- Saturation on admission
- Patient admitted in
- Date and day of inj. Remidesivir
- Date and day of Plasma therapy
- Date and day of Tocilizumab
- Diagnosis

Findings

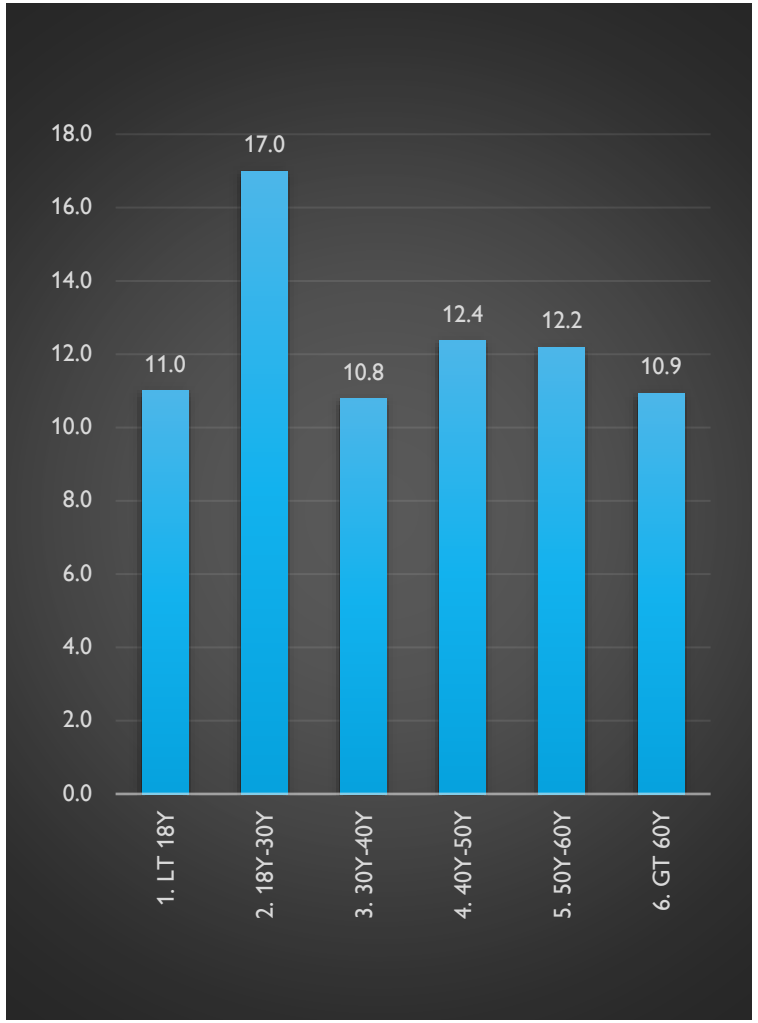


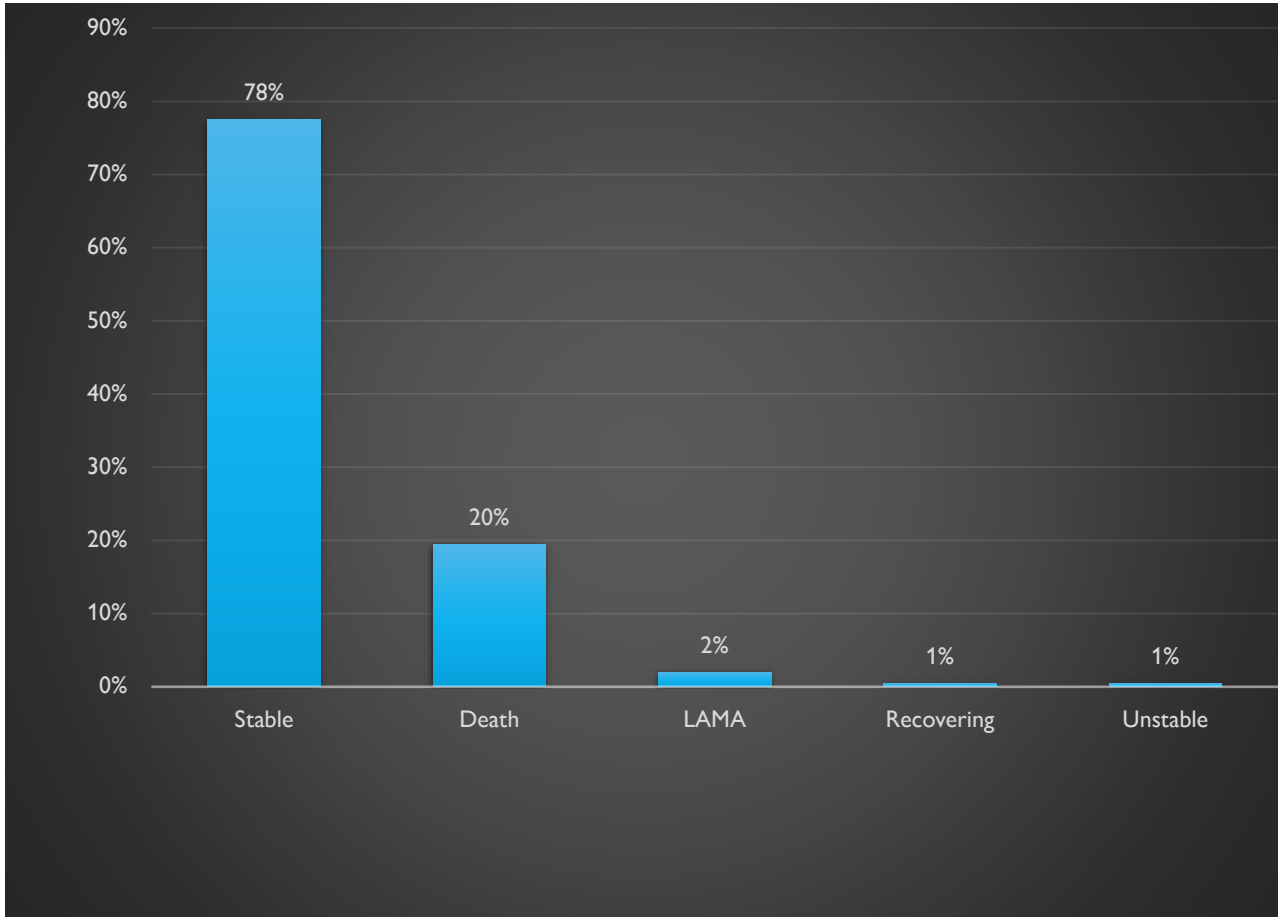
Percentage Distribution of Covid Positive patients by age group

Majority of the patients who were admitted were in the higher age Brackets.
Only 5% of the patients who were admitted were under 30 years of age.

Average Length of Stay by Age Group

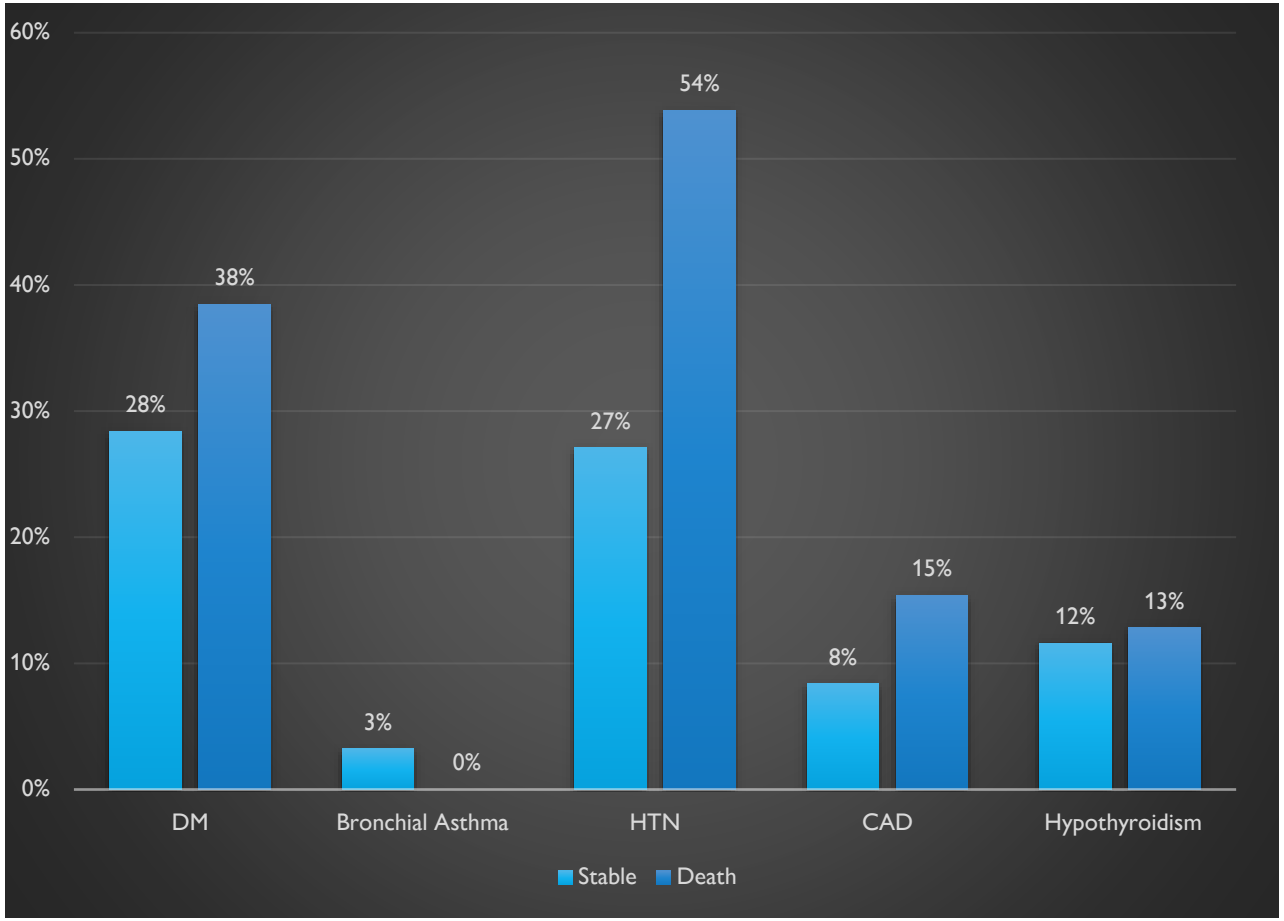
A typical patient's length of stay varies between 10 to 12 days for all age group except 18 to 30 years, but it is significantly higher for the age group of 18 to 30 years. There could be two plausible explanations





Percentage Distribution of patients by Discharge Status

- 78% of patients were stable with treatment however 20% of the patient were succumbed to Death due to Covid.
- Comorbidity is one of the important factors that leads to high fatality rate.



Percentage Distribution of Discharge status by comorbidity

•Data shows Hypertension and Heart related diseases (CAD) increases the fatality rate by 2x.

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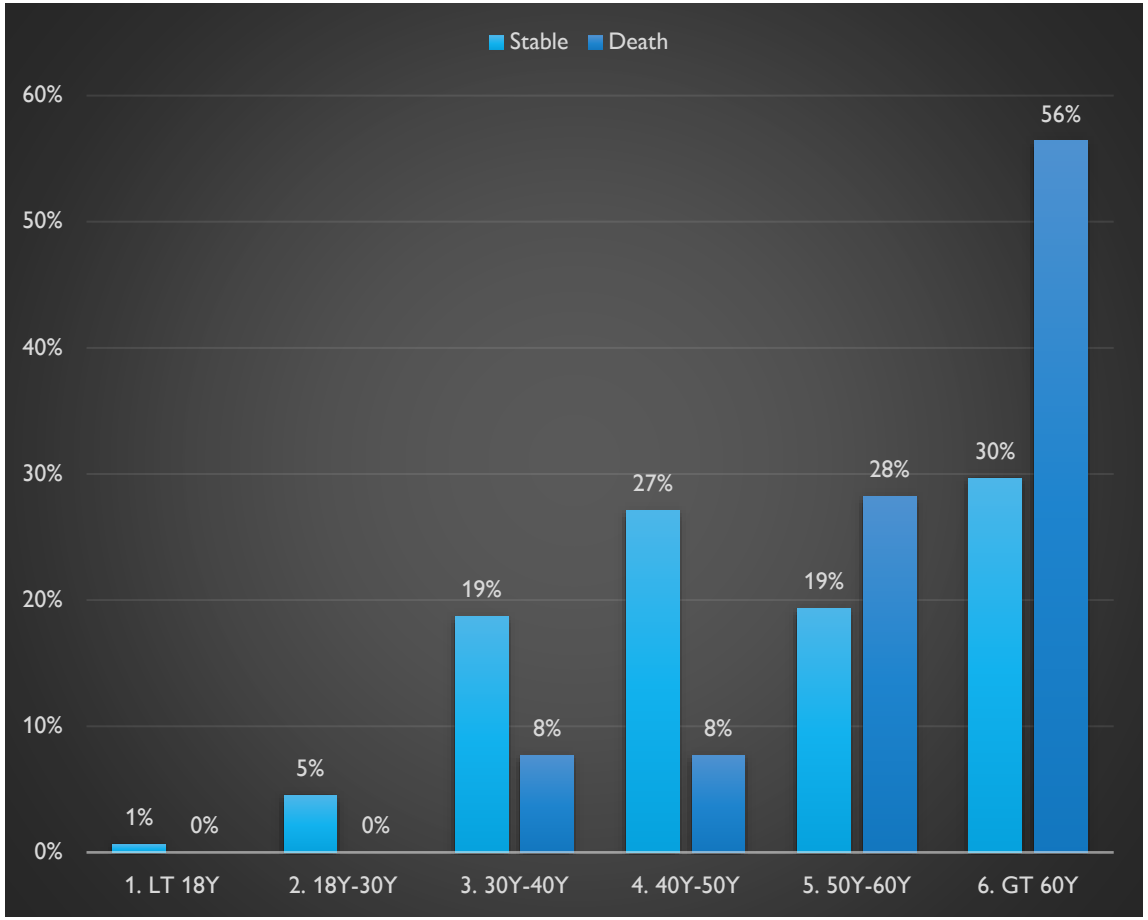
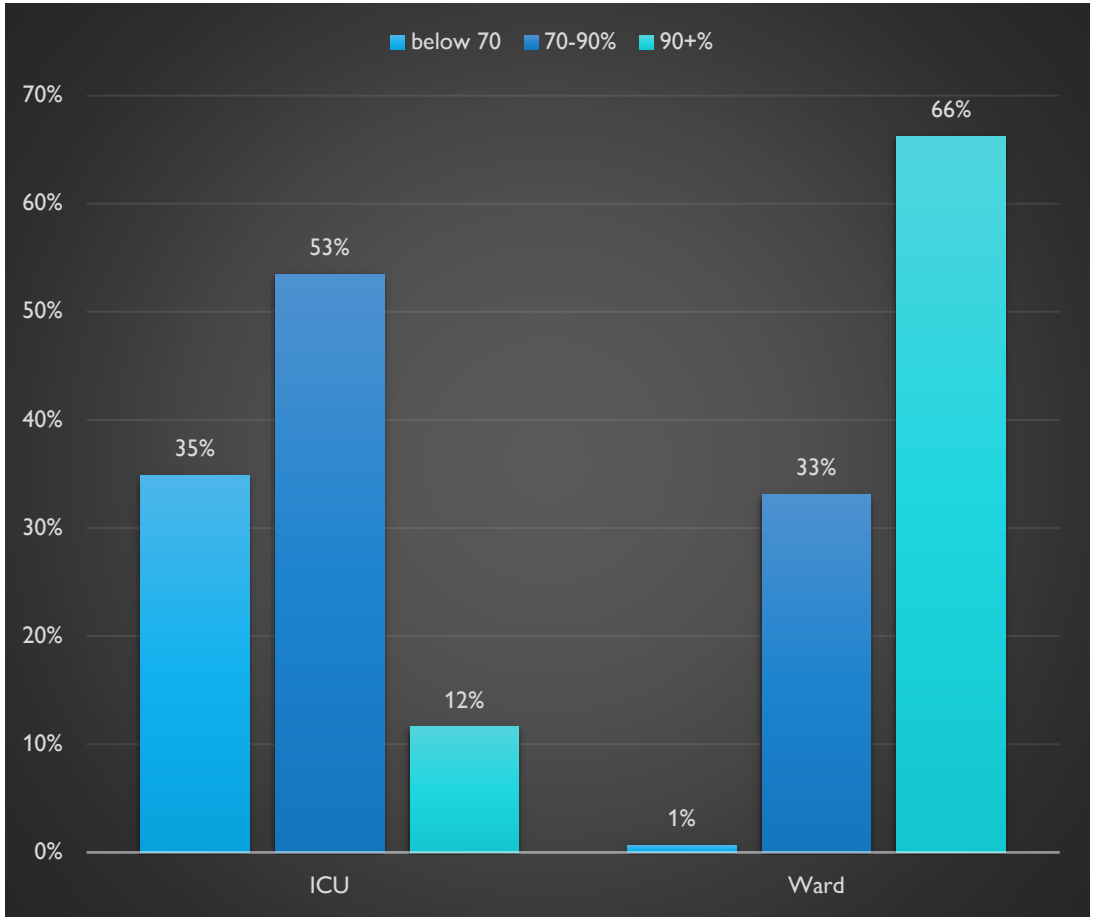


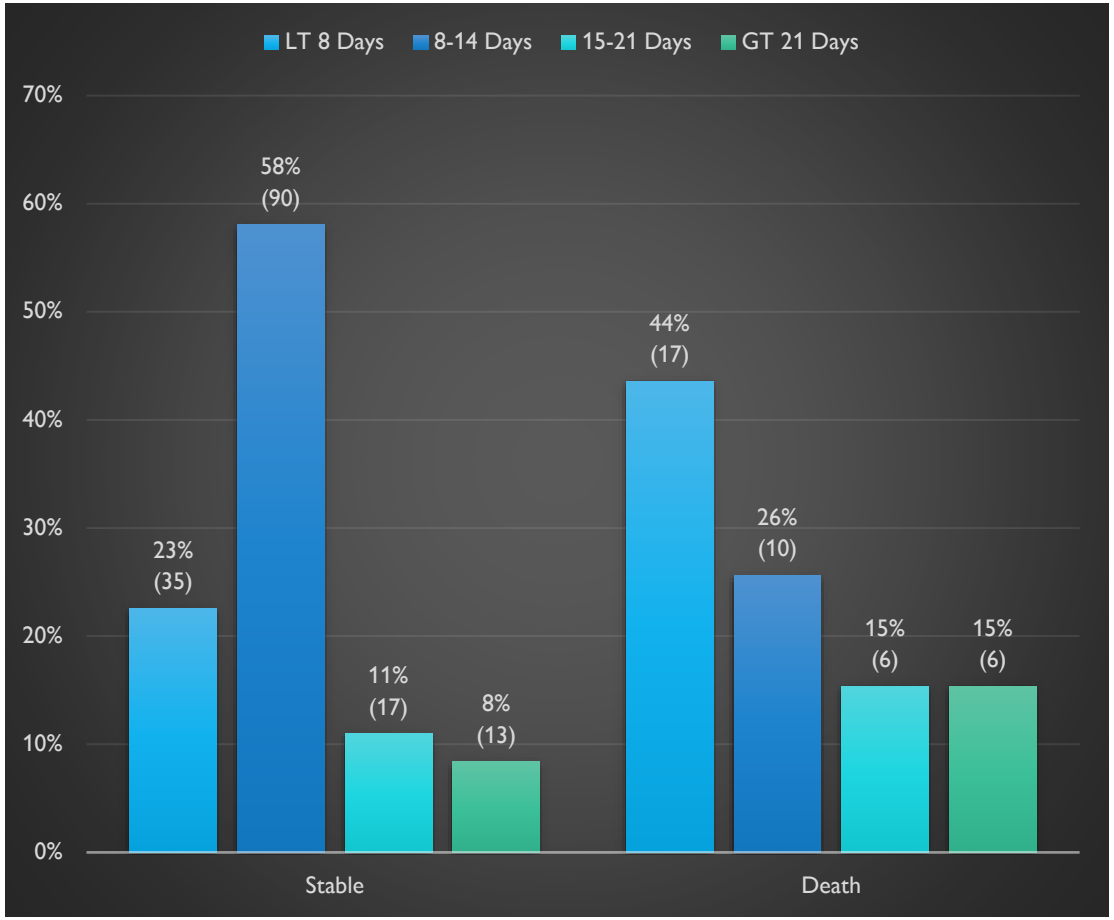
Percentage Distribution of Discharge status by Age Group

- Patient with age above 60 years experiences 2x fatality rate.
- Patient between the age 50 to 60 years has 9% high chance of fatality.



Percentage Distribution of Spo2 Level at the time of admission by Facility (Ward/ICU) type

- 88% of patient admitted in ICU had Spo2 level below 90%
- 34% of patients admitted in ward had Spo2 level below 90%



Percentage Distribution of LOS by Discharge Status

- As we have seen before the average LOS is between 10-12 days.
- 42 patients stayed for more than 2 weeks.

Discharge Status on Various Treatment Options

- From the above data none of the treatment has assured effectiveness against Covid.

Discharge Status	Remidesivir	Plasma	Tocilizumab
Death	72%	56%	38%
Stable	65%	23%	5%

Conclusion

- Age group and comorbidity is seen to be the primary factor responsible for patient's death due to covid.
- Secondary factors that could be considered here are late arrival of patient, shortage of oxygen and bed availability.
- No particular treatment can be considered to have assured results.

Recommendations

- Increase testing, early detection of disease and timely symptomatic treatment is the only cure for covid disease.
- There should be early arrival to quality medical care.
- We need to improve the overall medical bed capacity at district/national level to tackle this kind of situation in future.
- People should focus more on high-risk hereditary diseases by improving the lifestyles.
- The cause of emergence of second wave (affecting more younger generation) is because of less no. of people got vaccinated in the age group between 18 to 45. So, increasing vaccination could have prevented the disease.

Reference

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THANK YOU