

# A Study of Clinical Profile of COVID-19 Patients in a Tertiary Care Centre in Western UP in SARS COV-19 Third Wave

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**Abstract:** Introduction: Corona virus disease 2019 (COVID-19) is a newly emerging infectious disease caused by infection with Severe Acute Respiratory Syndrome Coronavirus-2 (SARS CoV-2). The third COVID-19 disease wave in India was seen in January to March 2022, due to omicron variant of SARS-COV-2 [1] and clinical profile of patients admitted in this wave in SVBP hospital during January to April 2022 was studied. Material and Methods: The study was conducted in SVBP hospital & LLRM Medical College, Meerut during COVID-19 at the time of 3rd wave from January 2022 to April 2022. All admitted COVID-19 patients in the hospital were studied, thorough history, vaccination, co-morbidities, examination was recorded & all the investigations were done Patients were treated symptomatically and interventions were also done when needed and recorded. Results and Conclusions: Total 151 patients were admitted in SVBP hospital during COVID wave-3. In these 81 i.e. 53.65% were males and 70 i.e. 46.35% were females. In all the admitted patients, 138 patients i.e. 90.39% were successfully discharged and 13 patients i.e. 8.60% expired during hospitalization. Discussion: There are various data on mortality in SARS COV-19 infection in India. It is very difficult to calculate true mortality rate due to under-reporting of cases on major scale in India. The Case fatality rate [2] in first COVID-19 wave was predicted to be 1.4% whereas case fatality rate for second wave was estimated to be 0.8% after adjustment of under reported cases. [2]

**Keywords:** COVID-19, Case Fatality Rate, Svbp Hospital, Clinical Profile, Mortality, Hospitalization

## 1. Introduction

Corona virus disease 2019 (COVID-19) is a newly emerging infectious disease that was first identified in China in December 2019. It is caused by infection with Severe Acute Respiratory Syndrome Coronavirus-2 (SARS CoV-2).

On January 30<sup>th</sup>, 2020 World Health Organisation (WHO) declared the disease a Public Health Emergency of the International Concern (PHEIC) and later on March 11<sup>th</sup>, 2020 the COVID-19 disease was declared a pandemic.

The first COVID-19 spike in India was seen in September month in 2020. The second wave was recorded in May-June 2021. In this wave delta variant of SARS COV-2 was more prevalent. The third COVID-19 wave in India was seen in January to March 2022. Most of these cases were due to omicron variant of SARS-COV-2 [1]

India began its vaccination programme on 16 January 2021 with Covishield and Covaxin.

Some new strains emerged in the second wave like Delta strain and Omicron. Delta variant was very contagious and virulent. Omicron variant of the 3<sup>rd</sup> wave was said to be highly contagious but not as virulent as Delta variant.

Here we have studied the clinical profile of patients admitted in SVBP hospital during January to April 2022

## 2. Material and Methods

The study was conducted in SVBP hospital & LLRM Medical College, Meerut during COVID-19 at the time of 3<sup>rd</sup> wave from January 2022 to April 2022.

All admitted COVID-19 patients in the hospital were taken in the study.

A thorough history and examination was recorded and all the investigations were done as follows –

CBC,  
LFT,  
KFT,  
SERUM ELCTROLYTES,  
CRP,  
D. DIMER,  
Chest X-RAY.

Vaccination status and co-morbidities were recorded.

Patients were treated symptomatically and interventions were also done when needed and recorded.

## 3. Data

**Table 1:** Genderwise Distribution of Patients

Gender	No. of Patient	Percentage
Male	81	53.65%
Female	70	46.35%
Total	151	

**Table 2:** Agewise Distribution of Patients

Age Group	No. of Patient	Percentage
< 18 Years	2	01.32%
18-40 Years	65	43.04%
41-60 Years	46	30.46%
>60 Years	38	25.16%
Total	151	

**Table 3:** Vaccination Status of Patients

No. of Vaccine	No. of Patient	Percentage
Unvaccinated	22	14.56%
One Dose	53	35.09%
Two Dose	76	50.33%
	151	

**Table 5:** Various Co-Morbidities in the Patients

CO-Morbidities	No. of Patient	Percentage
Obesity	4	2.64%
CAD	9	5.96%
CKD	11	7.28%
Cancer	1	0.06%
DM	12	7.94%
Meningitis	1	0.06%
HTN	4	2.64%
DHF	1	0.06%
Total Patients-151	43	28.47%

**Table 6:** Clinical Presentation of the Patients

Presentation	No. of Patient	Percentage
Mild	45	29.80%
Moderate	78	51.65%
Severe	28	18.54%

**Table 7:** Patients on Respiratory Support

Respiratory Support	No. of Patient	Percentage
Oxygen Mask	52	34.43%
NIV	2	1.32%
MV	4	2.64%
Total 151	58	38.41%

**Table 8:** Treatment Status of the Patients

Drugs	No. of Patient	Percentage
Dexamethasone	151	100%
Anti-Coagulation	11	7.28%
Ivermectin	151	100%
Remedesvir	3	1.98%
Inotropes	7	4.63%
Tocilizumab	0	0.00%
HCQ	0	0.00%

**Table 9:** Treatment outcome of the patients

Outcome	No. of Patient	Percentage
Discharge	138	91.39%
Transferred	0	0.00%
Lama	0	0.00%
Death	13	8.60%
	151	

## 4. Results and Conclusions

Total 151 patients were admitted in SVBP hospital during COVID wave-3.

In these 81 i.e. 53.65% were males and 70 i.e. 46.35% were females.

Of total 151 admitted patients, 2 patients i.e. 1.32% were less than 18 years, 65 patients i.e. 43.04% were between 18-40 years, 46 patients i.e. 30.46% were in 41-60 years of age group and 38 patients i.e. 25.16% were more than 60 years age.

It was seen that 50.33% i.e. 76 patients were fully vaccinated (2 doses) amongst 151 admitted patients, 53 patients i.e. 35.09% had taken only one dose while 22 patients i.e. 14.56% were unvaccinated.

In this study 12 patients i.e. 7.94% were Diabetic, 11 patients i.e. 7.28% were having Chronic Kidney Disease, 9

patients i.e. 5.96% were having Heart Disease, 4 patients i.e. 2.64% were having Hypertension, 4 patients i.e. 2.64% were Obese, one patient i.e. 0.06% was having Multiple Myeloma, 0.06% i.e. one patient was having Dengue Haemorrhagic Fever, one patient i.e. 0.06% was having Meningitis.

Amongst Clinical presentation, 45 patients i.e. 29.80% had mild disease, 78 patients i.e. 51.65% had moderate disease and 28 patients i.e. 18.54% had severe symptoms of the disease.

Out of these patients, 52 patients i.e. 34.43% were on oxygen mask, 2 patients i.e. 1.32% were on BIPAP and 4 patients i.e. 2.64% required mechanical ventilation.

In this study, all the 151 patients (100%) were given Dexamethasone similarly, all (100%) patients were given Ivermectin, 11 patients i.e. 7.28% were kept on Anticoagulation and 3 patients i.e. 1.98% were given Remedesvir and 7 patients i.e. 4.63% were put on ionotropic support.

In all the admitted patients, 138 patients i.e. 90.39% were successfully discharged and 13 patients i.e. 8.60% expired during hospitalisation.

## 5. Discussion

There are various data on mortality in SARS COV-19 infection in India. It is very difficult to calculate true mortality rate due to under-reporting of cases on major scale in India.

The Case fatality rate [2] in first COVID-19 wave was predicted to be 1.4% whereas case fatality rate for second wave was estimated to be 0.8% after adjustment of under reported cases. [2]

In India, the immunization was started on 16/1/2021 and by Jan 2022 India vaccinated its major population. [3]

During January 2022, there was a surge in COVID-19 cases, the spread was high but the severity and mortality was low. It was suggested that this surge could be due to-

- Waning effect of vaccination
- Newly emergent variant Omicron
- Virus Escape Phenomenon

As compared to previous two waves admission rate was low in this wave.

It was observed that disease was highly contagious and was spreading amongst the whole family and work places at once.

During third wave 151 patients were admitted in our hospital. Most of the patients were in the age group of 18-40 years, 41-60years & >60years age with co-morbidities.

Mortality was seen in 13 cases, out of these 9 patients were unvaccinated, while 4 patients took only single dose of vaccine.

138 patients were successfully discharged after improvement which shows Good recovery in COVID-19 third wave.

The Study shows only 28 patients had severe illness out of which only 4 patients required mechanical ventilation.

A declining pattern of severity of SARS COVID-19 disease was seen in third wave, which may be because, by this time most of the people had developed herd immunity due to latent infection together with massive vaccination drive in India.

The decline strongly suggests timely role of vaccination & social distancing in management of a pandemic. Improved healthcare services with determination of Government & responsible behavior of Citizens helped in curbing the severity of pandemic with time.

## References

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