

ORIGINAL RESEARCH

A Study of Demographic & Clinical Profile of Covid 19 Patients at Tertiary Care Centre, Karwar

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ABSTRACT

Background: Coronavirus disease 2019 (COVID-19) causes mild to severe respiratory illness and is associated with ICU admission and mortality. In this study the demographic profile, clinical features, lab parameters, and outcomes in hospitalised COVID-19 patients in a tertiary care hospital are reported. **Methods:** 200 consecutive patients with confirmed diagnosis of COVID-19 who were admitted from January 2021 to 31st June 2021 in a tertiary hospital KRIMS, Karwar were studied. Only patients with moderate and severe disease were admitted. Rests were advised home quarantine. They were given medical treatment as per Indian guidelines and besides the patient profile their clinical course, oxygen requirement and need for ventilator support and outcomes were studied. **Results:** Age ranged from 30-85 years. 70% of patients were between the age of 51-70 years. 66% patients were males and 34% were females. 93% patients were admitted with shortness of breath (SOB). Other complaints included fever (31%) and cough (59%). 76% of the subjects had associated comorbid conditions. Diabetics constituted 61% and hypertensives 52% of these cases. 52% of patients were stabilised on low flow oxygen/without oxygen, 16% required high flow oxygen, 33% needed non invasive ventilation and 3% had to be mechanically ventilated. 60% of patients who required noninvasive ventilation were diabetics. Significantly higher comorbidity was present among patients with severe disease as compared to those with moderately severe disease. (Pearson $\chi^2(1) = 22.9781$, $P = 0.000$). 92% of all admitted patients recovered completely. 72% cases who received non invasive ventilation recovered and had no residual complication. 3% were referred or left the hospital. The hospital stay ranged from 1 to 32 days. Mortality was 5%. **Conclusion:** The patients who were admitted with COVID-19 were elderly with a male predominance. Comorbidity was significantly associated with severe disease. Recovery rate is good with early and aggressive ICU care.

Keywords: COVID-19, Comorbidities, Severe Disease, mortality

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INTRODUCTION

The novel severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) causes coronavirus disease 2019 (COVID-19). The virus has spread worldwide, causing mild to severe respiratory illness, and is associated with Intensive Care Unit (ICU) admission and mortality. World Health Organisation declared COVID-19 as a pandemic on March 11, 2020.^{1,2} Patients with SARS-CoV-2 infection may be asymptomatic but can also develop serious complications requiring hospitalization and admission to intensive care unit (ICU). It is believed that the clinical course is affected by underlying health conditions or comorbidities. Our study aimed to examine the demographic characteristics, clinical

profile, associated comorbid conditions, the disease progression, clinical course and most importantly the outcomes of such patients who were hospitalized in our institution.

MATERIALS AND METHODS

This study was a retrospective study, and 200 consecutive patients with confirmed diagnosis of COVID-19 who tested positive on real-time reverse transcriptase polymerase chain reaction (RT-PCR) assay for SARS-CoV-2 on a throat and/or a nasopharyngeal swab who were admitted to KRIMS Teaching hospital, Karwar from January 2021 to June 2021 were enrolled. Besides these patients those with high CT score and antenatal mothers with any medical

complaints were also studied. COVID -19 patients were classified into mild, moderate, severe and critical as per Govt of India COVID-19 treatment guidelines.

- Mild with no evidence of hypoxemia with SpO₂ above 94% were advised home quarantine. Only moderate, severe and critical patients having evidence of hypoxemia or shortness of breath or high grade fever were admitted to the hospital.
- Moderate -The patients were classified as moderate if SpO₂ was 94%-90% in room air and the patient had no signs of severe disease and was stable with low flow oxygen.
- Severe patients were those with SpO₂:•< 90% room air RR: >30/min.
- Critical-were those with ARDS and sepsis

They were given standard treatment as per Indian guidelines. Our admitted patients were managed according to the following protocol in our institution. They were divided in general into 4 categories and 2 groups. (Group A) : Category 1. Those who were by and large stable with low flow oxygen (up to 10 litres per minute via nasal prongs or mask)) or even without oxygen and could be categorized into the moderately severe group. (Group B) Category 2. Those requiring high flow oxygen (more than 10 litres per minute requiring mask with reservoir bag) Category3. Those requiring non invasive ventilation (NIV) Category4. Those requiring mechanical ventilation The category 2,3 and 4 were clubbed into Severe/critical group or

the Group B Detailed history & examination done according to proforma. All relevant investigations including covid markers were done. Institutional ethical committee approval has been taken. The particulars of the patients were noted. Chi-square test (χ^2) was used for checking statistical significance of the association using Strata software.

RESULTS

The age group of the patients is given in Table 1 .Most of the patients were between the ages of 51- 70 years. Thus the older age individuals are at greater risk of requiring hospitalisation. In this study 122(66%) patients were males and 78(34%) were females showing that Covid19 infection affects the males more often. In our study 186 (93%)patients were admitted with shortness of breath (SOB). Other symptoms were cough in 118 patients (59%), sore throat in 42(21%), fever in 62 (31%) Thus majority of patients in our study were admitted with SOB. We admitted only patients who had high grade fever, low oxygen saturation or shortness of breath. Those with mild symptoms like cough etc were not admitted therefore the percentage of patients with these symptoms is comparatively less in our study as compared to those with SOB. Respiratory support o the patients requiring respiratory support are given in Table 2.

Table 1: Age group distribution.

S.No	Age	N	%
1	<40	16	8
2	41-50	24	12
3	51-60	76	38
4	61-70	64	32
5	>70	20	10

Table 2: Respiratory support of patients.

S.No	Paramotor	N	%
1	Low flow oxygen (2- 6lt)	96	48
2	HFNC	32	16
3	NIV	66	33
4	MV	6	3

Table 3: Comorbidities distribution[Overall comorbidity: 152 (76%)

S.no	Comorbidity	N	%
1	DM	122	61
2	HTN	104	52
3	COPD	40	20
4	Malignancy	18	9
5	Hypothyroid	8	4
6	others	32	16

In this study associated comorbid conditions are enlisted in Table3 which shows that majority of the admitted patients had some or the other comorbidity.122 patients (61%) of patients who required were diabetics & 104 were hypertensives.

There was significant correlation between comorbidity and patients with severe disease (Group 2) as compared to moderately severe disease (Group 1) (Table 3)

In this study 92% of admitted patients recovered completely. 3% were referred or went dama. 75% cases who received non invasive ventilation recovered and had no residual complication. 3 patients were discharged while on oxygen for few weeks. Rest had recovered completely though some complained of general weakness. Mortality was 5% (10patients) in this study. Hospital stay ranged from 1 to 32 days.

DISCUSSION

In our study more of older individuals were hospitalised in conformity with other reports according to which the greatest risk for severe illness from COVID-19 is among those aged 85 or older.^{1,2} Male sex was preferentially targeted by the COVID - 19 infection also shown by some of other Indian studies.^{3,4} 152 (76%) of our patients who were hospitalized had some or the other comorbidity.(Table 3) Keeping in mind the prevalence of diabetes as around 11.9 % in India ,122 (61%) of our admitted cases had diabetes. 40 out of 66 (60.60%) patients who required noninvasive ventilation (and thus severe disease) were diabetics. Thus diabetics needed hospitalization and also ICU care more frequently. Similarly hypertension was an important comorbidity present in 52% of our patients. (Table 3)Two of these patients had only mild hypertension.18 patients had associated malignancy.6 also gave history of hypothyroidism and 40 of COPD. (Table 3) In a meta-analysis study on COVID-19 comorbidities by Paudel *et al.* of a total of 1786 patients the most common comorbidities identified in these patients were hypertension (15.8%), cardiovascular and cerebrovascular conditions (11.7%), and diabetes (9.4%).⁵ The less common comorbidities were malignancy (1.5%), respiratory illnesses (1.4%) and renal disorders (0.8%).Our group had higher percentage of diabetes and hypertension as they were all admitted patients with moderate to severe disease. It is to be noted that 38pregnant patients were admitted during this period for delivery. They were not included in the list of medical patients. All were asymptomatic and underwent caesarian section(14) and the rest had normal delivery and were discharged without recording any complication. 5% of all patients expired.The overall mortality reported by different studies was 10.5%, (Indian study)³ USA (21.1%)⁶ and UK (26%)⁷ . 29% of severe group (ICU) expired.^{6,7} Quah *et al.* reported a mortality of 25.7% among ICU patients ⁸. 92% of all admitted patients recovered which included patients with moderate and severe disease. 48 out of 66 patients (72.72%) who received non invasive ventilation recovered. 3% were referred or left. 1patientout of the NIV group was on intermittent oxygen one month after discharge. Rest were doing well with no residual symptoms. Some complained of weakness though. No patient in the group who had to be mechanically ventilated recovered. It is to be noted that most of these patients reported very late.

CONCLUSION

Elderly individuals especially of male sex and comorbidities such as diabetes and hypertension were risk factors for hospitalisation and progression to severe disease. Early aggressive ICU care particularly non invasive ventilation plays an important role in management of COVID-19 patients with severe disease along with drug therapy. Knowledge of the factors affecting the outcome and disease progression can serve as guideline for more efficient management of COVID-19 patients in future.

Conflict of interest: Nil

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