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Original Research Article

Profile of COVID in-patients treated in a tertiary health care center, Kerala

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ABSTRACT

Covid 19 is a contagious disease caused by SARS Cov 2 which causes acute respiratory syndrome. The usual disease presentation symptoms include fever, cough, fatigue, shortness of breath, vomiting, loss of taste or smell. Some cases may be asymptomatic. Complications include pneumonia, viral sepsis, acute respiratory distress syndrome (ARDS), kidney failure and death.

This study was conducted to explore the demographic profile of Covid 19 patients admitted, their clinical presentations, treatment received and outcome; so that effective management and prevention of complications can be done in the future.

Out of total of 613 In-patients selected randomly, random start was decided and every 5^{th} patient was selected for the study which gave us a sample size of 123. Out of 123, 107 (83.6%) were symptomatic at the time of seeking admission.73 (57%) of them had any pre-existing co-morbidity. Among pre-existing co-morbidities, diabetes and hypertension were noted to be of the highest frequency. Out of 123 admitted cases, (11.7%) succumbed to the disease and its complications, (75%) recovered and were discharged.

1. Introduction

Covid-19, the deadly corona virus hit Wuhan, China in December 2019 and later spread rapidly across the globe since January 2020 and was soon declared a pandemic by the WHO. SARS-CoV-2 has had a major impact on human health globally; infecting many people; causing severe disease and associated long-term health sequelae; resulting in excess mortality. It has had a negative impact on people and their physical and mental health.[1] Globally, till 6 May 2022, there have been 513,955,910 confirmed cases of COVID-19, including 6249700 deaths, reported to WHO.[1] India is one of the countries badly affected by the Covid-19. Kerala also showed similar statistics and the state is still struggling to overcome the virus infection related morbidities. In India, 42574719 cases and 524024 deaths have been reported till 7 May 2022.[2] Whereas in Kerala, 6542660 cases and 69164 deaths have been reported till 3 May 2022.[1–6]

A large number of individuals have undergone treatment for Covid 19 in Kerala. However not many reports are published from Kerala in scientific journals. This study was conducted to explore the profile of Covid 19 patients admitted, their symptom profile and the pattern of treatment received. Not many reports are published from Kerala in scientific journals regarding their clinical presentations. A few published reports are based on information through telephone contact or epidemiological data. This study was conducted to explore the profile of admitted patients-test confirmed of Covid 19 diagnosis. Their clinical characteristics, pattern of treatment and outcome was gathered.

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2. Materials and Methods

This was a retrospective study conducted in a tertiary health care centre in Kerala. The study period and sample size were calculated as follows. The aims and objectives, methodolgy and study design was made into a protocol form and submitted before the institutional ethics committee and the clearance was obtained. The study was conducted from 1 December 2020 to March 31 2021. There were 613 patients who received IP care during the study period. A sample size of 123 was calculated and an additional 5 was decided for collecting data. The IP records were collected, studied and the data compiled. The first case record was selected randomly and every 5^{th} case record was selected to reach the number. There were no exclusion criteria and every 5^{th} record was included regardless of the treatment outcome. All the case records were taken and relevant data was recorded using a pre-designed proforma. The details collected included demographic profile, pre-existing co-morbidities, ground for treatment, number of days treated, category at the time of admission and category change if any during the stay, development of any known or unknown complications, treatment outcome. The collected information was compiled, analyzed and presented in tables.

3. Results

In total, 613 patients were admitted in covid ward/ICU from 1 December 2020 to March 31 2021 and out of them, 123 patients were selected randomly and their IP records were analysed. In the study, no significant gender difference was noted and males and females were equally involved. Maximum number of admitted patients belong to the younger to middle age group.

Table 1: Age and sex distribution of patients who received IP care

Age group	Male	Female	Total
Less than 1	1	3	4
1 to 4	3	2	5
5 to 14	0	2	2
15 to 44	24	24	48
45 to 59	16	14	30
60 and above	20	19	39
Total	64	64	128

Morbidity and death was more prominent among older age group, 93.75% death being in the above 45 year age group. Maximum number of patients discharged without any significant morbidity were in the younger 15 to 44 year age group. Certain patients who opted for outside treatment/home quarantine were classified under “discharge against medical advice ” group.

Change in category (+) indicates shift to higher category and worsening condition and (-) indicates shift to lower category following betterment of symptoms.

Table 2: Age wise outcome of patients who received IP care.

Age group	Discharged	Discharged against medical advice	Referred	Death	Total
less than 1	3	0	1	0	4
1 to 4	5	0	0	0	5
5 to 14	2	0	0	0	2
15 to 44	42	4	1	1	48
45 to 59	21	1	4	4	30
60 and above	23	2	3	11	39
Total	96	7	9	16	128

Table 3: Number of patients who had COVID related symptoms/comorbidities at the time of admission.

	Yes	No	Not recorded	Total
Symptoms	107	21	0	128
Comorbidity	73	54	1	128

Out of the patients studied 83.5% were symptomatic and 57.03% had comorbidities.

Table 4: List of co-morbidities and risk factors in patients whorecieved IP care

Diabetes mellitus	44
Hypertension	37
Cardiac disease	22
Dyslipidaemia	11
Chronic kidney disease	12
Hypothyroidism	7
Gestational diabates	1
Chronic obstructive pulmonary disease	5
Cerebrovascular accident	9
Bronchial asthma	2
Seizure disorder	7
Malignancies	4
Chronic liver disease	15
Parkinsons disease	1
Polycystic ovary disease	1
Protein energy malnutrition	1
Pregnancy	2

Most common comorbidity noted was diabetes mellitus followed by hypertension and cardiac disease.

Table 5: Number of patients against Clinical category at the time of admission and the highest category the patient was in during the hospital stay

Clinical category	At admission	Highest category during hospital stay	Change in category
A	53	52	-1
B	47	46	+1
C	26	28	+2
Not Recorded	2	2	0
Total	128	128	5

Majority of the patients fell under category A followed by B and then C.

According to current guidelines,
Covid-19 Category A was defined as having low grade fever, mild sore throat/cough/rhinitis/diarrhoea.
Category B was defined as having high grade fever with severe sore throat/ cough OR category A with one or more of the following:

1. Lung/heart/liver/kidney/neurologicaldisease/blooddisorders/unco diabetes/cancer/HIV-AIDS
2. On long term steroids
3. Pregnancy
4. Age > 60 years

Category C was defined as

1. Breathlessness, chest pain, drowsiness, fall in blood pressure, blood in sputum, cyanosis- bluish discoloration of skin/mucosa (red flag sign).
2. Children with influenza-like illness with red flag signs.
3. Somnolence, high or persistent fever, inability to feed well, convulsions, shortness of breath, respiratory distress.
4. Worsening of underlying conditions.

Table 6: Number of patients according to treatmentrecieved

Treatment	Yes	No	Not Recorded	Total
Supportive	127	0	1	128
Antiviral	35	91	2	128
Anti inflamatory	33	94	1	128
Oxygen	29	98	1	128
Ventilator	7	120	1	128

4. Discussion

In the study conducted to describe the clinical profile of Covid-19 patients admitted in a hospital Jaipur showed that male patients constituted 66.66% as compared to our present study where male-female ratio was found to be equal.

In both the studies, majority patients were found to be below 60 years of age. In their study 67% were found to be symptomatic whereas it was 83.6% in our study. 14.28% patients had comorbidities in their study in comparison to 57% with underlying co-morbidties in our study. In the study on clinico-demographic characteristics and in-hospital outcomes of a group of covid-19 patients in north India showed 93.1% of covid positive patients were males while in our study it was 50%. Co-morbidities were present in 15.9% whereas it was 57% in ours.

Oxygen requirement was required in 3.5% patients in their study while it was 22.8% in our study. In the study -The epidemiological data, co-morbidities, clinical symptoms, severity of illness and early outcome of patients with coronavirus disease from a tertiary care teaching hospital in New Delhi, India, 68.1% patients were males while it was 50% in our study. Any form of oxygen supplementation was required in 47.2% patients while it was 22.8% in our study.

5. Conclusion

In our study conducted on 123 Covid In-patients in a tertiary health care centre in Kerala, it was observed that

affected male female ratio was equal. Most of the patients were above 15yrs ,the maximum affected age group being 15-44 yrs. About 83.6% were symptomatic. Out of 123, 57% had underlying comorbidities the most common being diabetes mellitus.While under treatment 22.8% different forms of oxygen supplementation pointing to the severity of illness.Out of 123 admitted cases (11.7%) died, (75%) recovered and discharged.

6. Limitations of The Study

The study was conducted during the initial wave of covid. Hence case files were not completed, nurses and doctors were afraid and reluctant for taking duty and hence some columns were not recorded.

7. Source of Funding

None.

8. Conflict of Interest

None.

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