

A STUDY OF LENGTH OF HOSPITAL STAY OF COVID-19 PATIENTS ADMITTED IN A DEDICATED COVID-19 HOSPITAL IN UDAIPUR

Community Medicine

Dr Keerti	Senior professor, Dept of Community Medicine , RNT Medical College Udaipur.
Dr Hitesh Pratap Singh Jadon*	Resident Doctor, Dept of Community Medicine , RNT Medical College Udaipur. *Corresponding Author
Dr Anuradha Meena	Resident Doctor, Dept of Community Medicine , RNT Medical College Udaipur.
Dr Lokesh Kumar Parmar	Resident Doctor, Dept of Community Medicine , RNT Medical College Udaipur.
Dr Satyendra Kumar Parasar	Resident Doctor, Dept of Community Medicine , RNT Medical College Udaipur.

ABSTRACT

Background :- The ongoing coronavirus disease 2019 (covid-19) pandemic has placed an unprecedented strain on indian healthcare systems, with rapidly increasing demand for life-saving equipment and intensive care unit beds. The present study presents an analysis of average length of stay as per different demographic and clinical factors in a dedicated covid hospital. **Objectives:** 1) To study the clinical and epidemiological profile of Covid 19 patient. 2) To study about relation between patient's length of stay with their clinical characteristics **Method:** A hospital based Retrospective crosssectional study in which All RTPCR confirmed Cases who got hospitalization and got treated during 19 months(from March 2020 till September 2021)of the first RTPCR confirmed case in study area. **Result:** This study reported that out of the total 8027 study population higher proportion of Males that is 5229 (65.14%) were affected as compare to females 2798(34.86%). Mean age of this study population was 53.13 ± 20.13 year, and median age was 39 years. In our study we found that out of total 16.05% severely ill , mild 39.85% and moderate 44.10%. . Duration of stay of symptomatic patients was higher 16.14 ± 4.41 days as compare to asymptomatic patients 11.11 ± 3.95 days. Association between duration of stay with symptoms was statistically significant ($p < 0.001$). In our study average length of stay for male patients were 15.49 ± 4.32 days and female was 16.08 ± 4.54 days and average length of stay of patients with comorbidity were 17.23 ± 4.57 days and without comorbidity were 13.57 ± 4.08 days. **Conclusion:** average length of stay was higher in patients with comorbidity and patients who were symptomatic.

KEYWORDS

COVID-19 , Average Length Of Stay , Gender

INTRODUCTION:

Acute respiratory illness caused by Corona virus was first detected in Wuhan, China in December 2019. The infectious agent was named severe acute respiratory syndrome Coronavirus and disease Corona virus disease 2019 (COVID-19). Following the December 2019 outbreak, the virus spread rapidly around the world and was declared a pandemic by the world health organization (who) on January 30, 2020.⁽¹⁾ The clinical symptoms of COVID-19 are very similar to influenza and other respiratory viruses. The clinical symptoms and severity of COVID-19 may be variable. The common signs of infection are fatigue, muscle pain, sneezing, sore throat, dry cough, high fever, respiratory problems, etc. with some severe cases having pneumonia, serious respiratory syndrome, flu and common cold like symptoms. Three relatively large-scale studies done on 278 pooled patients in Wuhan, China suggesting that COVID-19 causes viral pneumonia. Co-morbidity like Cardiovascular, Hypertension, Diabetes and age of patients also plays a crucial role in disease output. An adult person without any serious co-morbidity was recovered easily while aged person co-morbidity with required intensive care and a ventilator^(2,3). Similar observations were noted in Indian patients also. The patients come with explained upper respiratory viral infection. The majority of patients have symptoms of fever, cough, sore throat, nasal congestion, malaise, and headache. The elderly another immune compromised patients have more and several typical symptoms. Although, dehydration, sepsis or shortness of breath are absent in these patients with a high prevalence of diabetes, it is important to understand the special aspects of COVID-19 infection in people with diabetes. This becomes even more important, as most parts of the world are seeing restrictions on mobility of patients in order to contain the pandemic.

OBJECTIVES:

- 1) To study the clinical and epidemiological profile of Covid 19 patients.
- 2) To study about relation between patient's length of stay with their clinical characteristics

METHODOLOGY:

Study Design: This study was a hospital based Retrospective Cross Sectional study.

Study Period: This study was conducted for 8 months from April 2022 to November 2022.

Study Area: This study was conducted at MAHARANA BHUPAL and attached Hospitals Covid Dedicated Centres –ESI Hospital, Satellite hospital Hiranmagri sector 6.

Study Population: Comprises all Covid 19 infected patients confirmed with RTPCR test and admitted to a tertiary care centre in at MAHARANA BHUPAL and attached Hospitals Covid Dedicated Centres –ESI Hospital, Satellite hospital. Hiranmagri sector 6 during 19 months. (from March 2020 till September 2021) from the first RTPCR confirmed case .data regarding epidemiological profile of patients was recorded from daily filed reporting formats and patients case sheet from record room.(daily files.)

Data Analysis. Data was entered in Microsoft excel and was analysed using Statistical Package for the Social Sciences (SPSS) ver. 21. For qualitative data, percentage and frequency were calculated and Chi square test used for association between two attributes, and for quantitative data mean, Sd were calculated and 't', ANOVA test were used for statistically significance. P value of less than 0.05 was considered significant.

RESULT:

The first COVID-19 case was admitted in Udaipur on March 2020 . Tests were conducted at Microbiology laboratory of RNT Medical College. All patients who were RTPCR confirmed positive and admitted from march 2020 till September 2021 were included. Majority of cases (75.16 %) belonged to Udaipur district and (21.34 %) of total patients were from out of Udaipur district while (3.50 %) of total admitted patients were from out of state. The mean age of admitted patients was 53.13 ± 20.13 year with majority of admitted

patients were male (65.14 %)

It was observed in this study that COVID-19 infection occurred in all age groups. Majority of admitted patients belonged to the age group of more than 60 years (33.46 %), followed by 45-60 years of age group (29.49 %). This may be related to the co morbidity and immunity . Highest proportion of admitted patients were male (65.14 %) while (34.86 %) of admitted patients were female.

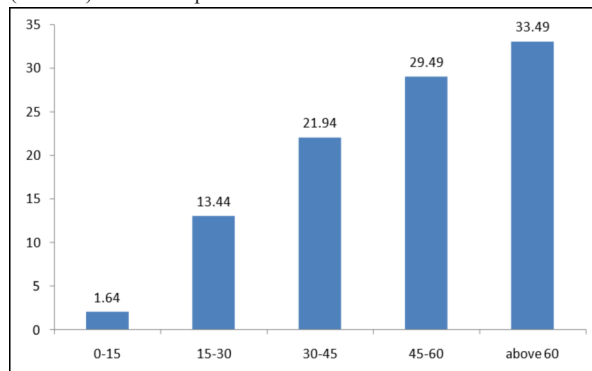


Figure 1 : Age Wise Distribution Of Covid-19 Admitted Patients

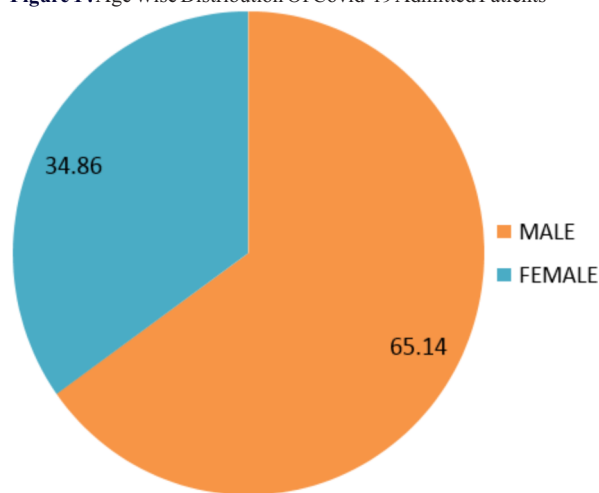


Figure 2: Gender Wise Distribution Of Covid-19 Patients

In this study out of total admitted patients (39.85 %) of total admitted patients were mild and (44.10%) patients were moderate and only (16.05 %) were severe. while (91 %) of admitted patients were symptomatic and (9 %) patients were asymptomatic. the most common symptoms reported in admitted patients were fever , cough, shortness of breath and fatigue and least common symptoms of admitted patients were diarrhea, altered sense of smell and taste.

In our study out of total admitted patients most common comorbid condition found was Hypertension 1649 (35.39%), Cardiovascular disease 1125(24.15%), Diabetes 813 (17.45%), followed by multiple comorbid conditions 454 (9.74%).

Out of total admitted patients 80.86 % patients were discharged while 19.14% patients died.

Table 1 : Gender Wise Average Length Of Stay

Duration	Male (%)	Female (%)	Total (%)
<7 DAYS	80(1.53)	160(5.72)	240(2.99)
7-14 DAYS	2610(49.91)	1115(39.85)	3725(46.41)
15-21 DAYS	1814(34.69)	1092(39.03)	2906(36.20)
22-28 DAYS	590(11.28)	309(11.04)	899(11.20)
>28 DAYS	135(2.58)	122(4.36)	257(3.20)
Total	5229(100)	2798(100)	8027(100)
Mean±Sd	15.49±4.32	16.08±4.54	15.70±4.40

χ^2 value=174.296, df=4, P value = <0.001

Average length of stay for male patients were 15.49±4.32 days and female was 16.08±4.54 days.(table 1). Association between duration

of stay with gender is statistically significant (p = <.001).

Table 2 : Clinical Features Wise Average Length Of Stay

Duration	Symptomatic (%)	Asymptomatic (%)	Total (%)
<7 DAYS	45(0.61)	195(27.66)	240(2.99)
7-14 DAYS	3441(47.00)	284(40.28)	3725(46.41)
15-21 DAYS	2684(36.66)	222(31.49)	2906(36.20)
22-28 DAYS	899(12.28)	0(0)	899(11.20)
>28 DAYS	253(3.46)	4(0.57)	257(3.20)
TOTAL	7322(100)	705(100)	8027(100)
	16.14±4.41	11.11±3.95	15.70±4.40

χ^2 value=1687.4, df=4, P value = <0.001

Average length of stay for symptomatic patients were 16.14±4.41 days and asymptomatic was 11.11±3.95 days. (table 2). Association between duration of stay with gender is statistically significant (p = <0.001).

Table 3 : Comorbidity And Average Length Of Stay

Duration	Without Comorbidity (%)	With Comorbidity (%)	Total
<7 DAYS	196(5.82)	44(0.94)	240(2.99)
7-14 DAYS	2081(61.79)	1644(35.29)	3725(46.41)
15-21 DAYS	619(18.38)	2287(49.09)	2906(36.20)
22-28 DAYS	459(13.63)	440(9.44)	899(11.20)
>28 DAYS	13(0.39)	244(5.24)	257(3.20)
Total	3368(100)	4659(100)	8027(100)
Mean ±Sd	13.57±4.08	17.23±4.57	15.70±4.40

χ^2 value=1134.1, df=4, P value = <0.001

Average length of stay of patients with comorbidity were 17.23±4.57 days and without comorbidity were 13.57±4.08 days.(table 3). Association between duration of stay with gender is statistically significant (p = <0.001).

DISCUSSION:-

Majority of admitted patients were more than 60 years which is similar to a study by Michael W Fried et al⁽⁴⁾. In contrast to other study by MD Jamil et al⁽⁵⁾. which shows younger population was admitted more in hospitals. A higher proportion of admitted patients were male in our study which is similar to a study by Sudhir Bhandari et al⁽⁶⁾. In our study out of total admitted patients most common comorbid condition found was Hypertension , Cardiovascular disease, Diabetes , followed by multiple comorbid conditions .that is similar to a study by Choro Athippro Kayina et al⁽⁷⁾. In our study we found that at the time of admission out of total study population symptomatic were admitted more compare to asymptomatic . In contrast to our study by Narendra Kumar et al⁽⁸⁾ found that higher number of admitted were asymptomatic. In our study it was found that mean duration of stay of symptomatic patients was higher days as compare to asymptomatic patients days. that is similar to a study by Abdulla Al shukry et al (2020)⁽⁹⁾.

LIMITATIONS

- 1) This study was done in geographically localized area therefore results we extracted accordingly
- 2) We did not have the data about effect of vaccination on Covid disease.

CONCLUSION

The present study is unique because it explains about length of stay of the same disease patient got same treatment as per the predefined protocols. it explains about characteristics that affects length of stay of a covid-19 patients.

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