European Journal of Molecular & Clinical Medicine

ISSN 2515-8260 Volume 09, Issue 04, 2022

"Socio-demographic profile and treatment Outcome of Covid-19 Patients attending Covid Hospitals of Datia, M.P. INDIA''

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ABSTRACT

Background- In December 2019, a series of pneumonia cases were identified with presumptive viral origin in Wuhan, China, the virus was initially designated as the novel coronavirus (2019-nCoV), later WHO renamed as Corona Virus Disease 2019 (COVID-19).

Objective- To describe the sociodemographic profile & Treatment Outcome of Covid -19 Patients attending Covid Hospitals of Datia district of M.P.

Methods -it was descriptive, cross sectional observational study conducted among COVID-19 positive cases admitted & managed at Covid hospitals (DCH & DCHC) affiliated to Government Medical College Datia ,M.P. from 1st April 2020 to 15th December 2020. Data was collected regarding age ,sex, Occupation, Residence and Treatment Outcome of Covid 19 patients and analysed accordingly with the help of EpiInfo software.

Results- The mean age of the patients was found 37.69±16.74 years. 65.7% of patients were belonged to a middle age group & male sex. Only 23.14% belongs to peripheral area& remaining were of urban area. Out of total 1620 positive patients, 78.76% patients were admitted & remaining were advised for home isolation. 92.47% had been discharged &cured ,only 1.72 % patients were up referred and only 0.39 % death had been occurred among of all admitted patients.

Conclusion- *As* only 1.72 % patients were up referred and 0.39 % death had been occurred among of all admitted patients which shows a good quality care of covid patients and may be also be due to mainly middle aged patients were found infected with covid -19 without any more significant co morbid conditions.

Keywords- Fever, Mortality, Pneumonia, COVID

ISSN 2515-8260 Volume 09, Issue 04, 2022

Introduction

Corona viruses are a large family of viruses which may cause illness in animals or humans. In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The most recently discovered coronavirus causes coronavirus disease COVID-19.[1]

In December 2019, a series of pneumonia cases were identified with presumptive viral origin in Wuhan, Hubei, China.[2] The virus was initially designated as the novel coronavirus (2019-nCoV), but after the global agreement, it was renamed Corona Virus Disease 2019 (COVID-19). [3]

This is the third coronavirus that emerged among the human population in the lasttwo decades. The other two were the severe acute respiratory syndrome coronavirus (SARS-CoV) outbreak in 2002 and the Middle East respiratory syndrome coronavirus (MERS-CoV) outbreak in 2012.Human-to-human transmission via droplets as well as through contact with fomites seems to be the critical route of the virus spread. Since 80% of the infected population are either asymptomatic or have mild disease, people have been going to their workplaces and even traveling internationally. Nevertheless, even though the virus is causing mild disease in many, the course of illness may be severe, leading to hospitalization and even death in elderly or those with comorbid conditions.[4]

The clinical spectrum of COVID-19 varies from asymptomatic or pauci symptomatic forms to clinical conditions characterized by respiratory failure that necessitates mechanical ventilation and support in an ICU to multi organ and systemic manifestations in terms of sepsis, septic shock, and multiple organ dysfunction syndromes (MODS). [2]The disparity of socio-demographic characteristics between countries is also obvious and therefore, the management strategy of one country needs to be individualized. During the initial phase of the Covid-19 outbreak, the diagnosis of the disease was complicated by the diversity in symptoms and imaging findings and in the severity of disease at the time of presentation. [2,3,5,6,7,8]

Rationale of Study

Although many published studies covered various aspects of COVID-19-positive patients from different countries including India. In the present study, we planned to describe the socio-demographic profile & Treatment Outcome Of Covid-19 Patients attending Covid Hospitals of Medical College affiliated teaching hospital of Datia, M.P.,India. This scientific report may aid the community and policy makers in obtaining a summary of the scenario of the country at a glance and may contribute to raising awareness about this pandemic.

The objective of this article from India is to describe the socio-demographic profile & Treatment Outcome Of Covid -19 Patients attending Covid Hospitals affiliated to Government Medical College Teaching Hospital of Datia district ,M.P., India. which experienced no previous outbreaks of coronavirus. We present data from a tertiary care setting in India used for isolation

and management of COVID-19 positive patients. This is the first report from the Region of Indian subcontinent.

Methodology

The present study was a descriptive, cross sectional observational study conducted among COVID-19 RT-PCR confirmed cases admitted and managed at Covid Hospitals affiliated to Government Medical College Datia ,M.P. The study subjects were **patients** admitted in Covid Hospitals Datia. The permission to conduct this study was taken from Data cell of Covid Reporting system of Govt.Medical College, Datia. The study describes the socio-demographic Profile & and treatment outcome of the Covid-19 Positive Patients admitted in covid hospitals of Datia, M.P.

Studyarea- Dedicated Covid Hospital (DCH) & Dedicated Covid Health Centre(DCHC) of Govt.Medical College affiliated teaching Hospital of Datia, M.P. .

Study type- it was descriptive, cross sectional observational study .

Study duration- 08 months. i.e. 1st April 2020 to 15th December 2020

Sample size- All 1620 Covid-19 positive patients reported to Covid Hospitals in given time period.

Sampling technique- convenient sampling method was adopted.

Ethical issue- No ethical issues were found as none kind of intervention were done over participants. , Permission was obtained from nodal officer Covid -19 of the institute..

Data collection- Data was collected regarding age ,sex, Occupation, Residence and Treatment Outcome of Covid with the help of predesigned questionnaire.

Patients outcome assessment- All the reported patients to DCH &DCHC were further assessed as cured &discharged, Up referred , Home isolated & death happened during treatment.

Statistical analysis-appropriate proportion as percentage, p value and chi square test were calculated by analyzing data with applying ms excel and Epi Info software.

Inclusion & Exclusion Criteria for participants-

1) **Inclusion criteria for participants-**

-Patients Who has Covid 19 positive on RT-PCR, True-NAAT or Rapid Antigen Test(RAT)

-Covid 19 Patients in this study include who had admitted in Covid Hospitals of Datia, M.P.,From 1st April 2020 and up to 15 th December 2020

-Covid 19 Positive Patients who had documented outcome as Recovered, Home Isolation or Death

2)Exclusion Criteria for participants:

-Patient who were suspected, Negative on RAT But Symptomatic & Patients who were Negative on RT-PCR were excluded from the study.

Observation & Results

A total of 1620 persons infected with COVID-19 were included in this study. The mean age of the patients was 37.69±16.74 years. The majority(65.7%) of patients were belong to a middle age group (20-50) and were male(68.9%) The socio-demographic distribution of patients was not found statistically significant p=>0.05. **(Table-1)** . 76.85% patients belongs to Datia urban and 23.14% belongs to peripheral area. 26.7% COVID 19 positive patient are related with job. Out of total 1620 positive patients, 78.76% patients were admitted & remaining (21.23%) were advised for home isolation. 98 % had been discharged &cured ,only 1.72 % patients were up referred and only 0.39 % death had been occurred among of all admitted patients.

Table-1:Age group & gender wise distribution of covid 19 positive patients :

S.No	Age groups (years)	Male No. and (%)	Female No. and (%)	Total No.and (%)	P value= 0.252457 DF=3 X^2 =4.084746
1.	Child hood (0-10)	**25(1.54)**	**21(1.29)**	**46(2.8)**	
2.	Adolescents (10-19)	91(5.6)	38(2.3)	129(7.9)	
3.	**Middle age group (20-50)**	**732(45.1)**	**333(20.5)**	**1065(65.7)**	
4.	Older age group (> 50)	269(16.6)	111(6.8)	380(23.4)	
	Total	**1117 (68.9)**	**503 (31.0)**	**1620 (100)**	

Figure 1: Residential area wise distribution of COVID 19 patients

As per findings of residential area - 1245(76.85%)patients belongs to Datia urban and 375(23.14%) patients belongs to peripheral area of district Datia. In peripheral area of Datia district maximum patients are from Bhander block (9 %) , Unnao & Indergarh Block remains as 4 % patients only.

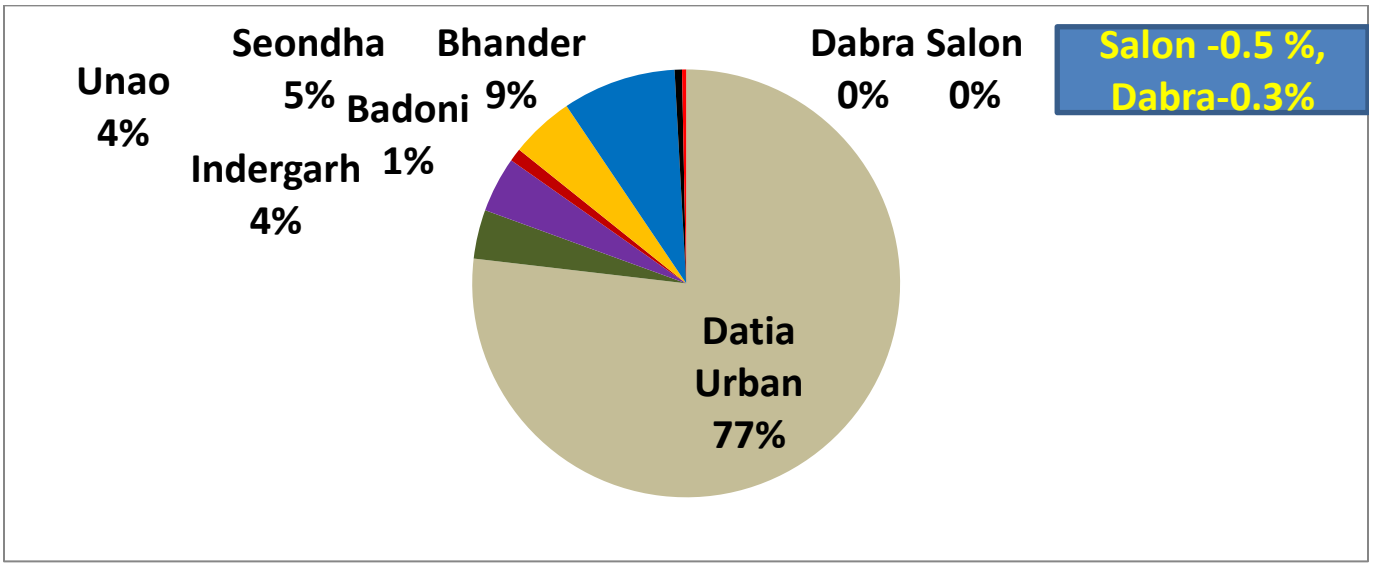

Figure1- Residential area wise distribution of Covid Patients.

Figure 2: Occupation wise distribution of Covid 19 patients- as per employed status of patients 26.7% COVID 19 positive patient were employed of either government and nongovernment (private) institutions of Datia. Remaining were non employed and from non employed maximum were engaged in business or own work ,13.76% were students and 11.48% House wife had been infected.

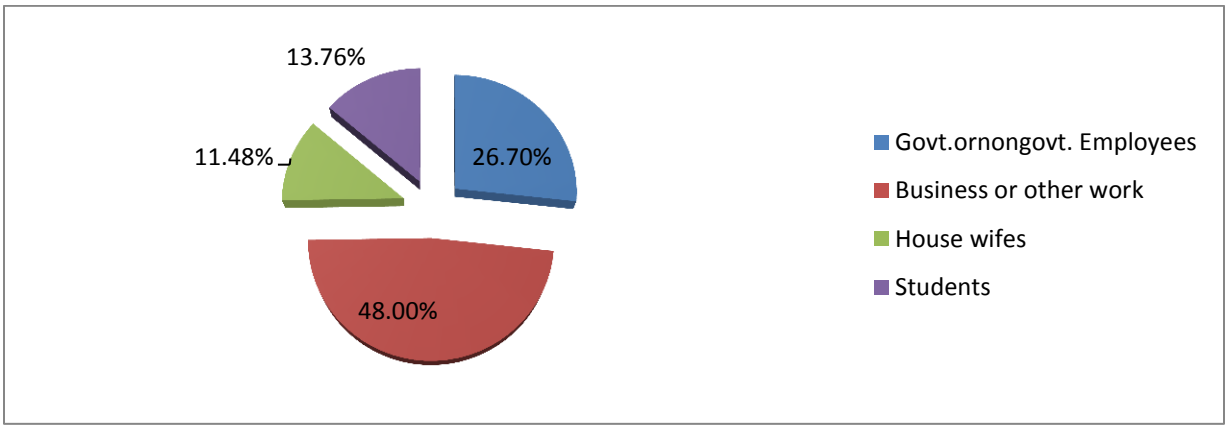

Figure 2- Occupation status of patients

Figure 3: Distribution of Covid 19 patients as per employed status in Government institutions- As per total Govt employed status is concerned it was found 96 were Govt. Employed out of 1620 total patients . 23(1.41%) were Doctors and total of 36(2.22%) were Health care workers including doctors , 34(2.0%) were Teachers,17(1.0%) were Bank employees,09 (0.55%) were Court staff had been infected.

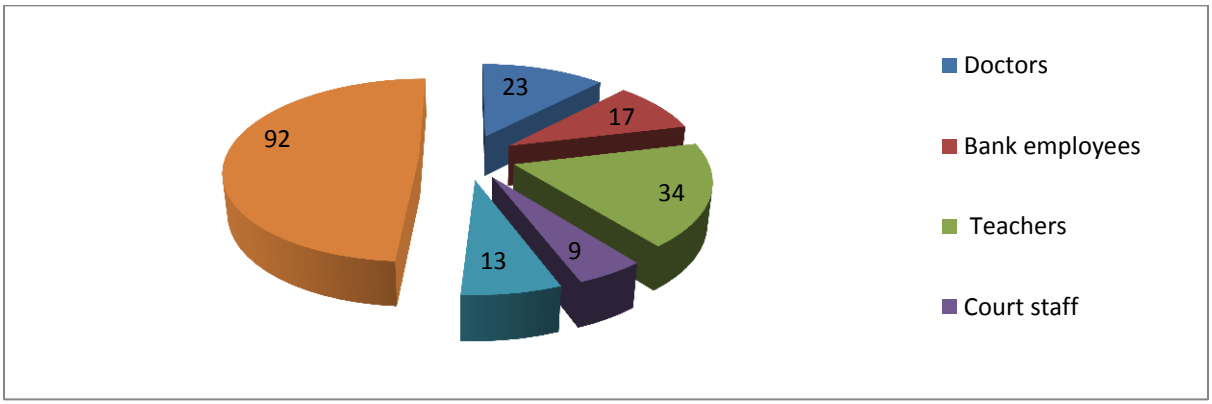

Figure 3- Govt. Employed status of Patients.

Figure 4: Patients distribution at Covid hospital as per Triage categorization-(N=1620)- As per triaging of patients reported to Covid Hospitals out of 1620 patient, 847 were admitted in DCH isolation, 343 were admitted in DCHC isolation,344 were home isolated and 86 were admitted in DCH ICU.

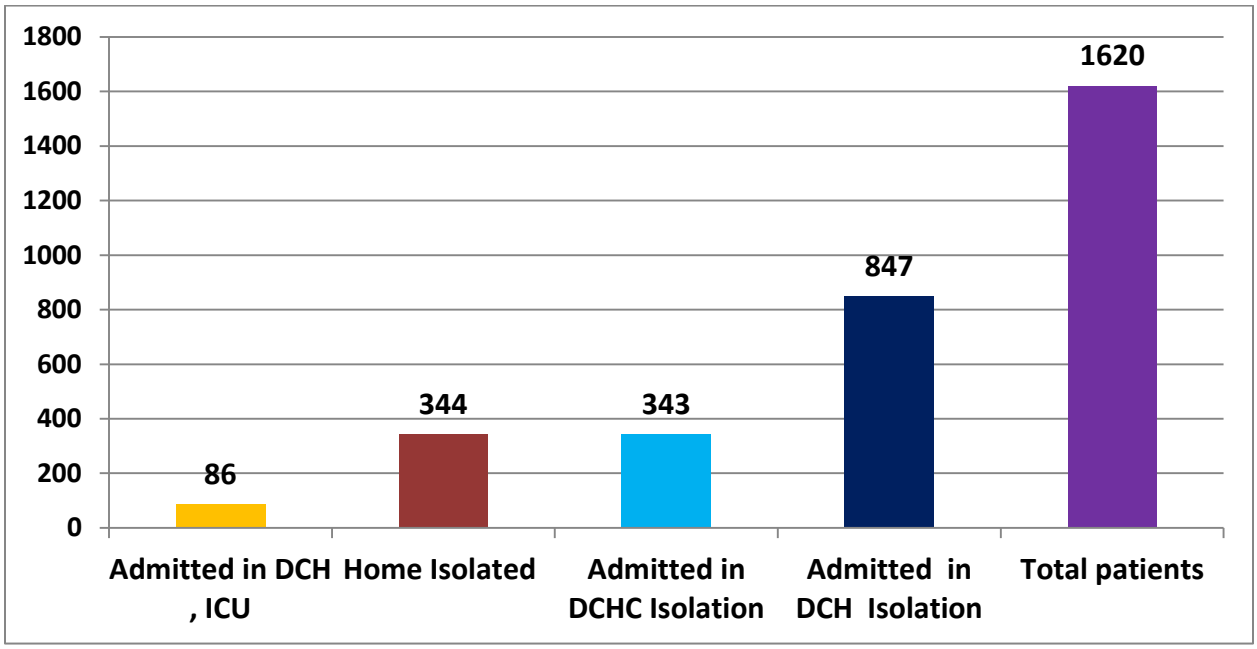

Figure 4- Triaging stations of reported patients

Figure 5:Distribution of Covid 19 patients according to their outcome- As per observed outcome 98% patients were cured and discharged ,2% were up referred and only 0.39% were reported as death which was one of the minimum death documented at M.P. Zone during the first wave of Covid-19.

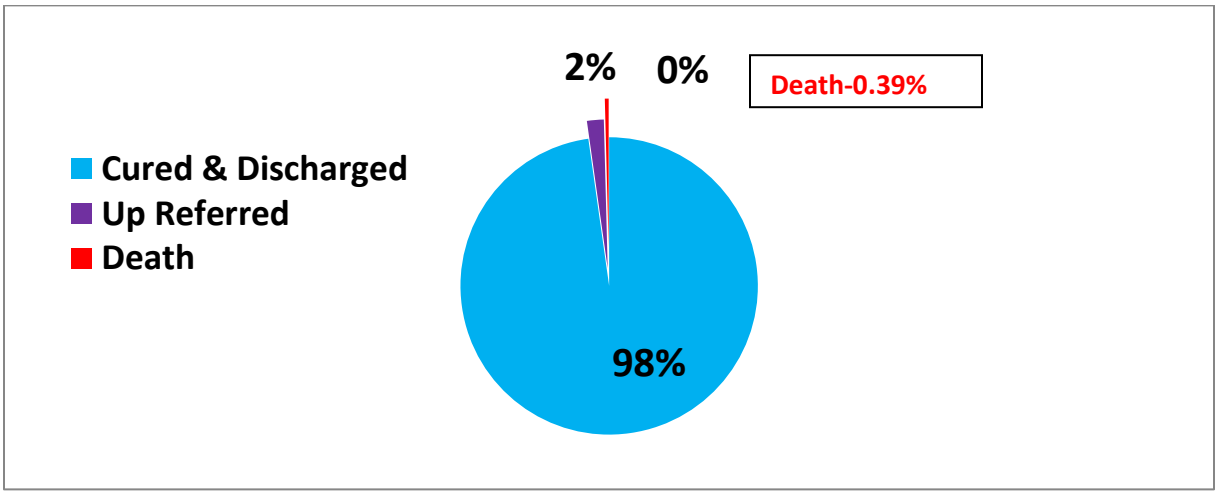

Figure 5- Patients Outcome.

Discussion

Considerable disparities in demographic patterns have been always observed by different types of studies between countries across different continents. Similarly this observational study demonstrated the sociodemographic profile and outcomes of COVID-19 patients from M.P. Region India.

In our study mean age of the patients was 37.69±16.74 years and median age was 35yrs. The majority(65.7%) of patients were belong to a middle age group (20-50) and were male(68.9%) by sex.

Similar findings were also found by Soni *et al* [9] (PGIMER)in his study, on 114 patients with SARS-CoV-2 infection, found that median age of the patients was 33.5 yr , and there were 58% males,which similar to our study.

In another similar study Mohan*et al*[10](AIIMS) found the mean age of the patients was 40.1±13.1 yr, with 93.1 per cent males, Majority of Our patients were male, similar to global data (54.3-73%).

If one can compare inter country median age of covid affected patients then In China (median age –56 yr)[11], New York (median age – 63 yr)[12] or Italy (median age – 63 yr)[13] was found and as compared to this global data our patients were younger (median age 35yr).

In case of mortality reported by Soni*et*[9]*al* in his study, found mortality of 2.6 per cent. Global data for mortality is varies considerably, Mortality reported in respective studies by other authors like Mohan et al [10](1.4%),Guan et al [14](1.4%),chen et al [15] (11%),Huang et al [16](15%), Wang et al[17](4.3%),Richardson etal[18](21%), in our study 0.39 %. In our study mortality was found only 0.39 % is less than global data may be because of timely interventions and build up of proper health care infrastructure or it may be due to late presentation of Covid in India which gave lot of time to understand about first Wave of Covid 19 in India.

Conclusion:

As only 1.72 % patients were up referred and 0.39 % death had been occurred among of all admitted patients which shows a good quality care of covid patients and may be also due to

mainly middle aged patients were found infected with covid -19 without any more significant co morbid conditions.

Last one year of covid 19 pandemic we witnessed, Unprecedented Crisis for healthcare and logistical management. With unplanned and sudden Global lock down people allover world lost their livelihood and forced in to the duo of poverty and disease.Coronavirus disease (COVID-19) pandemic has overwhelmed countries, capacities and exhausted all the resources, brought economies to a standstill, and forced people to sequester in their homes.

Respiratory hygiene,Social-distancing,faceMasks,Proper hand washing and Sanitization has been the key for breaking the chain of transmission. Spread awareness not the misinformation, prevent discrimination of Covid-19 survivors are the need of hour.

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