

Original Research Paper

COVID clinical epidemiology : Indian Perspective**Authors:** ¹Preeti Singh Dhoat, ²Navdeep Singh Dhoat, ³Aman Deep Kaur^{1,3}Associate Professor, Department of General Medicine, AIIMS Bathinda²Associate Professor, Department of Paediatric Surgery, AIIMS Bathinda**Corresponding Author:** Dr. Amandeep Kaur, Assistant Professor, Department of General Medicine, AIIMS Bathinda**Article Received:** 21-07-2022**Revised:** 11-08-2022**Accepted:** 31-08-2022**ABSTRACT**

Introduction: A Novel strain of Coronaviruses caused a cluster of pneumonia in the city of Wuhan in China by the end of 2019 which soon became a global pandemic by February 2020. World Health Organization labelled the disease as COVID-19, which stands for Corona Virus Disease-2019. More than a billion people have been tested positive with nearly 20 million dead due to COVID-19. COVID-19 has brought a sea of change in practice of medicine. The challenge of containing rapid spread of the disease along with rationing of limited resources has proved to be critical in the war against the virus. Among different fields in medicine, surgical specialities have undergone a paradigm change in this pandemic. Starting from virtual consultations, triaging and prioritising surgical cases, need for a COVID testing preoperatively, use of PP and mask with filters to use of webinars and simulation as a tool to continue surgical training. It is important that surgeons understand the various risk associated with COVID-19 infection and change themselves to adapt to this unique challenge. Need of the hour is to formulate guidelines and consensus statements to help surgeon to take informed decisions and prepare to give best care to the patient.

Background: Coronavirus (COVID-19) infection began in Wuhan city of China in December 2019 and soon became a global health problem [1]. It is caused by Coronavirus SARS COV-2. This is an enveloped single-stranded RNA virus belonging to the coronavirus family. Morbidity and mortality were seen in people from all backgrounds from all over the globe due to this virus. Being a new disease, it has significantly affected the lives of people physically as well as emotionally. We aimed to find out the clinical profile, epidemiological features, and associated co-morbidities in patients admitted to the SARI ward at AIIMS Bathinda, Punjab India.

Subjects and Methods: A Prospective Cross-Sectional study was done on 244 patients with COVID-19 RAT or RTPCR positive (Real-Time Reverse transcription polymer chain reaction assay of 2019 – n 20v RNA) was done. Data were collected ranging from sex, age, travel history, clinical symptoms, and associated comorbidities. Described cases are the earliest cases of COVID-19 in north India.

Main outcome measures: Result: Out of 244 patients that were admitted, 23.4 % were of 21-30 years age group, 17.6% were of 31–40-year age group, 13.5% were 41-50 years age group, 13.1% were of 51-60 years age group, 17.2% were of 61-70% are the group. 6.1% were of more than 70 years of age group. In this study 73% were male and 27% were females. 37% were diabetic, 46% had HTN and 37% suffered from CAD. 1% were smokers, and 99% were a non-smoker. and 60.2% were admitted with fever followed by 29.5% with breathlessness. 50.8% with cough, 22.1% with fatigue.

Conclusion: This study highlights the key epidemiological and clinical features of covid-19 cases during the early phase of the covid-19 pandemic.

KEYWORDS: CORONAVIRUS, SARS COV-2, HTN, DIABETES, CAD**INTRODUCTION:**

The emergence and spread of coronavirus disease 2019 (COVID-19) pandemic caused by the novel severe acute respiratory syndrome -coronavirus 2 (SARS COV-2) have caught clinicians and health care systems across the world unaware. In 8 months, more than 51 million individuals have been infected with the virus

and more than a million had died. As SARS COV-2 spread rapidly encountering population had no immunity and the health care system was unprepared, it claimed many lives [2]. However other factors such as sex (males), comorbidities such as diabetes, obesity, Cardiovascular Disease, Hypertension, and other social determinants were emerging as risk factors for COVID

-19 infection and morbidity from the beginning of the pandemic in Wuhan, China [3]. It is noticed that not all individuals fall equally sick due to SARS COV-2. The majority of affected individuals have mild to moderate disease, where some maybe even asymptomatic during disease, whereas others rapidly develop complications, though initially involving the respiratory system but also known to affect the cardiovascular system, neurological and renal system. Older individuals and those with co-morbidities are disproportionately represented; indicating that patient's factors play a major role in determining the severity of COVID-19 infection [4].

Among the co-morbidities with increased risk of adverse outcomes due to covid-19, diabetes (particularly type 2 DM) occupies the first position, on account of the sheer number of people worldwide affected with this metabolic disorder, and type-2 DM patients also tend to be older and have other co-existing conditions such as hypertension, cardiovascular and kidney diseases. This new coronavirus has jumped an interspecies barrier and it possesses the capability of the efficient patient-to-patient transmission and selectively kills older people and those with underlying chronic conditions.

MATERIALS AND METHODS:

This study was conducted in tertiary care hospital in North India. A prospective Cross-Sectional study was done on 244 Covid positive patients admitted to the SARI ward. This study was approved by the intuitional ethics board. Written informed consent was obtained from all patients.

RESULTS:

Out of 244 patients, 9% were of the 10 to 20 age group, 23.4% were of the 21 to 30 age group, 17.6% were of the 31 to 40 age group, 13.5% were of the 47 to 50 age group, 13.1% were of 51 to 60 age group, 17.2% were of 61 to 70 age group and 6.1% were of more than 70. Out of 244 patients, 73% are male and 27% were female. Out of 244 patients, RTPCR Test was done on 80% of individuals. RAT Test was done on 80% of individuals. 2% of individuals were those who have symptoms but not have done RTPCR or RAT. Out of 244 patients, Co-Morbidities along the history of drug taking 37% individuals were diabetic 46% individuals were hypertensive and 37% individuals had CAD. Out of 244 patients, only 1% of individuals were a smoker and 99% of individuals had no history of smoking. Out of 244 patients, 60.2% patients were admitted with fever followed by 50.8% with cough.

DISCUSSION:

Age plays an important role in the severity of SARS COV-2 infection. It affects fewer patients in the age

group less than 18 years. Male sex is more predisposed to morbidity. The most prevalent comorbidities are Diabetes Mellitus, Hypertension, Coronary artery disease, and fever followed by cough and dyspnea was the most common symptoms. Similar findings were reported by Esteban Ortiz-Irado et al where 55.4% accounted for male positive cases, and 44.6% accounted for females. Males older than 65 years were important determinants of mortality. Our study shared a similar result to the study done by Tambe MP in which he found most patients affected most in the age group 31 to 60. Similar findings were seen in a study done by Khan maria et al. in which patients were most affected in the age group 25 to 60 of age, predominantly male 70.25% were affected. Fever 72% and cough 59.5% were dominant & GI (17.35 %) were uncommon symptoms. This suggests a difference in viral tropism as compared with SARS-COV, MERS-COV, and seasonal influenza and is important for patients triage and hospital risk. Women are less likely infected than men, partly because of innate adaptive immune responses, there may be behavioral and social differences that favor women. The prior study suggests women are more likely than men to follow hand hygiene practices. Since RTPCR is one of the most quickly establish lab diagnostic method in the covid-19 pandemic, It serves efficiently as a modality to provide us result within 2 to 4 hours, clinical characteristics, chest imaging, etiology testing based on viral gene RTPCR also should be used in making a diagnosis. During this study majority of patients, 23.4% were in the age group of 21 to 30 years. The majority of patients 90.9 % were below 60 years of age and 23.3% were 60 years of age group. This agrees with the study conducted by Sudhir bhadhari et al [1] where also the majority of patients were below 60 years of age group. In our study 73% were male and 27% were females. This agrees with the study conducted by A.Manman, where 75% were male,79.5% of cases have RTPCR Positive reports 18% were RAT Positive and 2.5% has no COVID report but clinical features were consistent with Covid. 60.2 % of patients were admitted with fever followed by 50.8% from cough, 29.5% from breathlessness, 24.6% from sore throat, 22.1% presented with fatigue, 14.8% presented with headache, 5.3% has complained of loss of smell and taste, 0.8% complained of asymptomatic. This agrees with the study conducted by Jing Yang et all [2] which reported fever as the most prevalent clinical symptom followed by cough, fatigue, and dyspnea. This is also in consensus with the study conducted by A. Manman. 61% of patients suffering from diabetes followed by 7.8% had HTN as comorbidity and 2.9% had CAD. This is again

consensus with the study conducted by Ying Yang [2] where the most prevalent comorbidities were Diabetes Mellitus, followed by Hypertension and Coronary artery diseases. This agrees with the study conducted by where the fever was reported in 72.4% and cough was reported in 55.9%.

CONCLUSION: This study focused on the true spectrum of epidemiological and clinical characteristics of this new pandemic the world faced. Data shared a holistic picture of the disease spread. Studying the behavior and early diagnosis is crucial for understanding the pandemic.

Ethical Issues: -

The study was approved by the institute ethics committee of the All India Institute of Medical Sciences, Bathinda (Punjab).

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Conflict of interest: - There is no conflict of interest:

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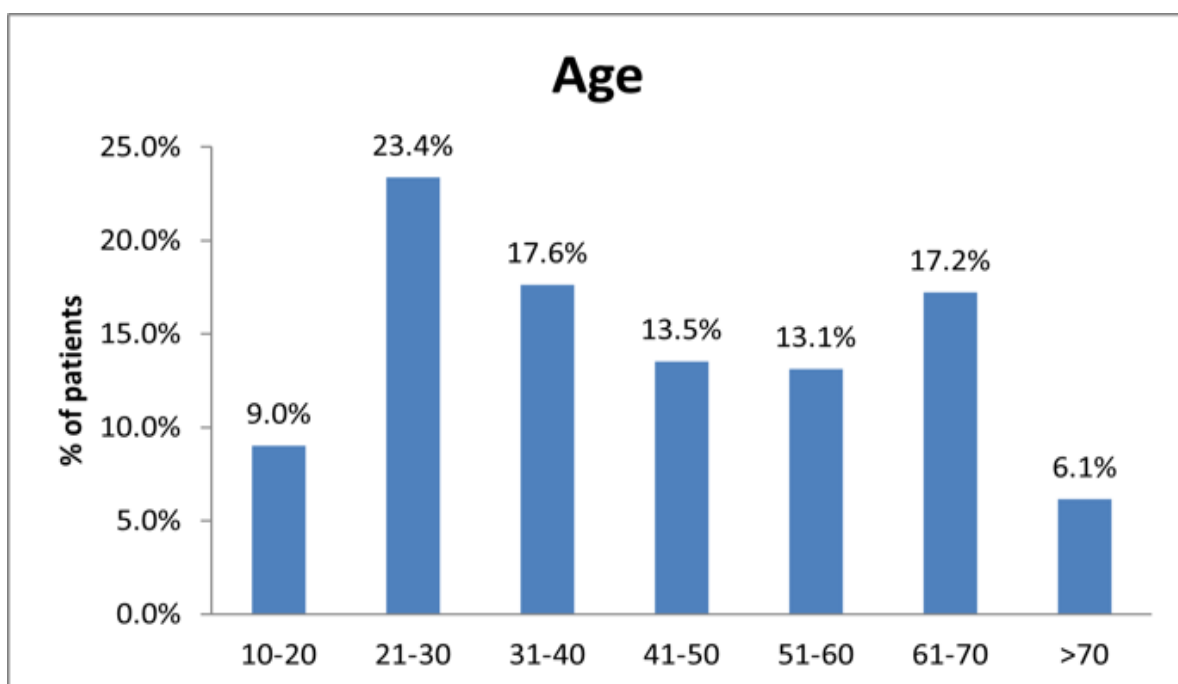
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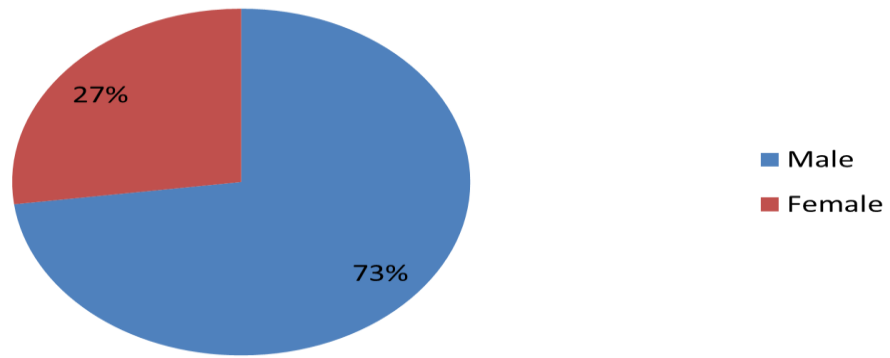
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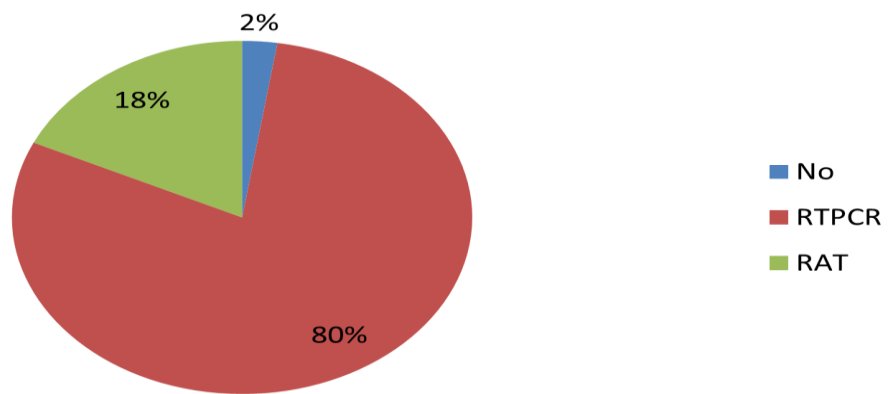
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Sex



COVID Testing



Comorbidity along with history of drug taking

