Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company’s public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Conclusions: We concluded that majority of the laboratories approved by ICMR are performing with high concordance of results despite varied usage of kits and platforms.

MORTALITY REVIEW OF COVID-19 PATIENTS: AN EXPERIENCE FROM THE LARGEST DEDICATED COVID HOSPITAL IN DELHI

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Background: The clinical presentation of COVID-19 varies from range of clinical symptoms to being completely asymptomatic. The country's case fatality rate in July was at 2.41% though the mortality has remained at a lower level in the Indian subcontinent. The present study aims at reviewing detailed demographic, systemic symptoms, comorbidities and its association with cycle threshold (Ct) values.

Methods: It is a retrospective study. The patients who died with the disease in the dedicated covid care hospital between March 2020 through October 2020 were included in the study. Records from Medical Records Department were retrieved with data entered in Microsoft excel sheet. The analysis was done in percentage and average values as required.

Results: A total of 10383 patients of confirmed COVID-19 were admitted to the hospital. Among these patients, 1321 patients died (12.72 deaths per 100 admisions). Among these death cases 83 patients had undergone RT PCR testing at MAMC at the time of admission. Out these 38 (45%) were females and 45 (54%) males. Crude death rate is calculated 127 per 1000 admissions. Deaths were highest in the month of June (21.5 per 100 admissions) followed by April (14.3) and August (10.2). Maximum comorbidities observed in death cases was hypertension (39%), diabetes (33%), coronary artery disease (16%) and chronic kidney disease (16%). Among these deaths 34% occurred within 24 hours of admission and additional 11% occurred in next 24 hrs. The lowest average Ct value (20) was observed in older patients (>60 years) indicating higher viral RNA burden.

Conclusions: Mortality was highest in >60 year old males, correlating with average lower Ct values suggesting higher viral load. Mortality was highest in the month of June. As close to 50% deaths occurred within 48hrs of admission indicating that patients arrived to the hospital in late stages of illness minimizing their chance of survival.

ANALYSIS OF COVID-19 BY RT-PCR DURING LOCKDOWN AND AFTER LOCKDOWN AT A TERTIARY CARE CENTRE

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Background: An outbreak of unusual viral pneumonia in Wuhan China, identified as novel Corona virus as evolved into global health crisis and it has been declared as pandemic by WHO on 11th March 2020. Indian government took stringent measures to control the outbreak by implementing lockdown on 22nd March and improvising the diagnostic and isolation facility. Reverse transcriptase polymerase chain reaction (RT-PCR) testing for presence of infection occupies a critical role in diagnosis, managing the patient and also in implementing the preventive control measures both at individual and at a community and global level.

Methods: Nasopharyngeal/Oropharyngeal swab samples from symptomatic patients and the contacts of positive patients were tested by RT-PCR from March to November 2020. Individual sample details including age, gender, address, co-morbidities, symptomatic/asymptomatic, history of contact, history of travel, were registered in standard sample referral form (SRF) prescribed by ICMR. Results of RT-PCR test and the above data were analysed with reference to the phase of lockdown and its role in the control of virus transmission. 5 phases of lockdown were described, phase 1: 24th March to 5th April, phase 2: 6th April to 30th April. Phase 3: 1st May to 15th June, phase 4: 16th June to 15th July, phase 5: 16th July to 15th August.

Results: A total of 30351 samples were tested using RT-PCR and 8604 (28.3%) were positive. Among the positives 61.3% were male and 38.7% were female. Positivity during phase 1 was 4.4%, in phase 2 was 6.7%, in phase 3 was 22.6%, in phase 4 was 12.8% and in phase 5 was 41%. After phase 5 positivity was 33.4%.

Conclusions: Results of the present study has shown that lockdown and intervention undertaken in a timely manner helped in curbing the spread of the virus thus controlling the morbidity and mortality. Importance of interventions such as use of mask, hand hygiene and social distancing is reinforced for the containment of the disease.

CLINICO-VIROLOGICAL-EPIDEMOLOGICAL CHARACTERISTICS IN COVID POSITIVE CLUSTERS AMONG FRONTLINE HEALTH CARE WORKERS AND NON-HEALTH CARE WORKERS – A HOSPITAL BASED STUDY

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Background: Ample of studies have been carried out on the causative agent, pattern of illness, treatment options which mainly concern regarding the patients and general population affected from COVID-19, however few studies have focused on its adverse effects on front line health care workers (HCW) and other employees of health care facilities. The present retrospective study was planned to analyze the clinico-viro-epidemiological profile of different covid clusters in HCWs and non-health care employees of AIIMS, Bhubaneswar.

Methods: A hospital based retrospective study was carried out on the HCWs and other employees of AIIMS, Bhubaneswar, who tested positive SARS-CoV-2 infection by RT-PCR test. The clinical and demographic information were analyzed with corresponding virological data of the patient.

Results: Of the 671 employees of AIIMS, Bhubaneswar who tested positive for SARS-CoV-2, 92 were from eight clusters that could be traced. The eight clusters involved 4 clusters each from both the HCWs group containing 66 individuals and non-HCWs group with 32. Male to female ratio was 2.5:1. Maximum 55 (59.7%) individuals belonged to 20-30yrs age group followed by 30-40yrs 32 (33.4%) and 40-50yrs 8 (8.4%). Asymptomatic COVID positive individuals were more as compared to symptomatic in all the age groups. All the individuals with cycle threshold value (CT) ≤ 20 were symptomatic; of the 21 persons with CT value 21-30, seven were symptomatic and 14 were asymptomatic. Majority with >30 CT value (35/44) were asymptomatic.

Conclusions: Frontline HCWs are constantly at increased risk of getting infection, but the disease burden and post-covid stigma can be substantially decreased among non-HCWs if COVID appropriate behaviour are strictly implemented and followe.
after 60 years of age as comorbidities also play a role.

**Methods:** Reverse transcriptase Polymerase Chain Reaction testing (RT-PCR) was done on nasopharyngeal swab speci- mens from persons with respiratory illness attending at SRRIT & CD Hyderabad during 6 months period from May 2020 to October 2020.

**Results:** A total of 4617 samples were tested by RT-PCR of which 1722(37%) shows positive results for COVID-19. 1056 (61.3%) were males and 666 (38.7%) were females. Highest positive rate was noted in month of June 528(11.4%) followed by July, August, September & October which are 8.6%, 6.8%, 5.3%, 3.2% respectively. Male preponderance was seen in 31-45 years of age group while it is 16-30 years in females.

**Conclusions:** The clinical features and prognosis of the disease vary among pa- tients of different ages and a thorough assessment of age may help clinicians to establish risk stratification for all COVID-19 patients

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**PREVALENCE OF COVID 19 IN NORTH CHENNAI-A CROSS SECTIONAL STUDY**

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**Background:** SARS CoV 2 is a new Beta coronavirus subgenus Sarbecovirus, family Coronaviridae Causing pandemic of coronavirus disease 2019(COVID 19)
- It spread rapidly causing severe global public health crisis.
- Transmitted mainly by respiratory droplets, it causes atypical pneumonia and acute respira- tory distress syndrome.
- RT PCR is the recom- mended test by ICMR for sur- veillance of COVID 19.
- According to WHO total cases in India is around 8.96million and deaths around 1, 32000(2%).

**Methods:** Nasopharyngeal and oropharyngeal swabs collected over a period of 8 months from April to November 2020 were subjected to RT PCR by ICMR approved RTPCR kits.

**Results:** Among 1, 84,915 samples tested, 19,431 (10.5%) were positive for COVID 19 and 1, 64,802 (89.14%) were nega- tive. 682 samples (0.36%) were rejected out of which 132(0.07%) were rejected pre analytically and 550 (0.29%) post analytically. Males (64%) were affected more than females (36%). Peak incidence was found between 20-40 years of age (73%) and Co-morbidity in 15% of cases. Maximum Positivity rate of 29.8% was observed in June and thereafter a steady decline was observed.

**Conclusions:** This study conducted in North Chennai recognized as Red zone of Tamil Nadu in April 2020shows a gradual increase in positive cases with peaking in June 2020(29.8%) unlike the peaking seen in September in rest of India. A steady decline to 4.1% was noted in the following months. Due to effective containment measures of Government by legally mandated quarantine, active surveillance of cases and controls with early diagnosis and isolation, barricading of hotspots, mandatory face masks, social distancing ,hand sanitization and cough etiquette, positivity rate declined in the last 4 months even after lifting the lockdown. The challenges we face in diagnosis and treatment of COVID19 emphasize the need to promote research and development, strengthening drug and vaccination development programs and evolv- ing a robust action plan to face a pandemic.

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**THE IMPORTANCE OF CYCLE THRESHOLD VALUES IN DETECTION OF SEVERITY & OUTCOME IN PATIENTS WITH SARS-COV-2**

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**Background:** Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a highly transmissible and pathogenic coronavirus that emerged in late 2019 and has caused a devastating pandemic of acute respiratory disease, named ‘coronavirus disease 2019’ (COVID-19). This pandemic caused health problems of human beings and an economic de- cline worldwide. The real-time reverse transcription (rRT-polymerase chain reaction (PCR) assay by a nasa & orophar- yngeal swab is effective for diagnosis of COVID-19, it is considered that cycle threshold value (Ct-value) of rRT-PCR as- say inversely correlated with viral load and are not reported clinically. So this study was undertaken retrospectively to compare Ct values of patients tested positive for SARS CoV 2 by rRT-PCR with severity of illness, duration of hospital & mortality.

**Methods:** A retrospective study was performed among patients tested positive for SARS CoV 2 by rRT-PCR & admitted in Rajarajeswari medical college & hospital, Bangalore. The details of the patients on duration of hospital stay, age, pre- ence of comorbidities, intubation, mortality was collected. The Ct values of rRT-PCR test was compared with severity & mortality of illness. The data was analyzed using descriptive statistics.

**Results:** The study comprised of 100 patients tested positive for SARS CoV 2 by rRT-PCR. The Ct values were compared with duration of hospital stay, severity of illness & mortality. The patients with low Ct values were associated with in- creased duration of hospital stay, severity of illness. Low Ct values were also associated with increased age & presence of other comorbidities.

**Conclusions:** Ct values of SARS-CoV-2 rRT-PCR among hospitalized patients with COVID-19 independently correlates with the severity of illness and duration of hospitalization. Providing this information to clinicians could potentially be used to guide patient care.

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**CRP WAS FOUND TO BE AN INDEPENDENT DISCRIMINATOR IN COVID19 PATIENTS**

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**Background:** The outbreak of novel Coronavirus Disease 2019 has led to the pandemic. This virus is causing severe acute respiratory syndrome, with increasing morbidity and mortality and yet to find a vaccine for the virus. Several inflamma- tory markers help in early pickup of severely affected patients. One of the inflammatory marker is C reactive protein.

**Methods:** A prospective study was done from Sep 2020 to Nov 2020. We collected 200 samples from inpatients in COVID wards. CRP was done by passive agglutination test, and the positive value was expressed in mg/L.

**Results:** After statistical analysis, Out of 200 COVID positive patients 71 were >60 years of age, 56 were 41-60 years of age, and 22 were in 19-40 years of age group. There were no patients below 19 years of age in our hospital. Positive CRP value was present around 36% in age group of >60 years of age group, 28% in 41-60 age group and 11% in 19-40 years of age group.

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