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Age wise demographic characteristics and in-hospital outcomes of a group of COVID-19 patients in north India

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Abstract

Background: Covid 19 has taken the world by shock. India has crossed almost 80 Lakh positive tests and world has more than 43 million positive cases. The present study was aimed to describe the agewise demographic characteristics and in-hospital outcomes of a group of COVID-19 patients in North India.**Material and Methods**: This was a retrospective, single-centre collection of data regarding agewise epidemiological, demographic study of COVID-19 patients admitted in a medical college teaching hospital facility in north India using UP and ICMR portal.**Results:** Of the total 24000,748 (3.1%)were positive samples. 289(38.6%) females and 459(61.4%) males were infected. 0-20 years had 16.2%, 21-40 years had 48.6%, 41-60 years had 25.2% and >60 years had 10% of cases. Most affected group was in age of 21-40years which is almost half of the total positives that is 342(48.6%) were infected.**Conclusion:** Most affected group was in age of 21-40years. Males were affected more than females.

Keywords: COVID-19, Males, Virus.

Introduction

The latest ICMR data shows that nearly 34 per cent infected people in India are under the age of 30 years, six per cent higher than the first week of April. Experts said higher Covid-19 infection in young India is directly linked to their ratio of population[1].More young people are getting infected with Covid-19 as cases flare up throughout India. The latest age profile data of Covid-19 shows people below 30s are nearly 34 per cent of total reported cases, about 28 lakhs, as on August 20. However, five months ago they were only 28 per cent of the total reported cases - 1,801, as on April 2[2,3].

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Coronavirus has caused large respiratory outbreaks previously in the form of severe acute respiratory syndrome (SARS) outbreak in 2003 and Middle East respiratory syndrome (MERS) in 2012 which has caused >10,000 cases globally and mortality around 10 and 37 per cent for SARS and MERS, respectively [4,5].   In India, the first case of COVID-19 was identified on January 30, 20206 and the number has been increasing steadily due to local transmission and foci of community transmission. As of April 14, 2020, the number of cases in India was 11,485 with overall reported mortality of 3967. Delhi recorded 1,561 cases till April 14, with 30 deaths[6].It is equally important to note that under which age group and which gender is affected the most, so if a pattern is available it will be easy to take precautions under certain age group and genderthat is target age group and target gender can be provided extra precautions. The present study was conducted to describe the agewise demographic characteristics and in-hospital outcomes of a group of COVID-19 patients in north India.

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Material and Methods

An analysis was done in the rtPCR lab of a teaching hospital in northern India located in adjoining area of Nepal and around 22,000 rtPCR samples and 1,800 Truenat samples were analysed over a period of two months and after noting down the positivity agewise and genderwise distribution of the persons infected was achieved.The study was approved and consent for the same was obtained from relatives of patients. Results were tabulated and subjected to statistical analysis.

Results

Table 1: Prevalence of COVID- 19

Total	Prevalence	Percentage
24000	748	3.11%

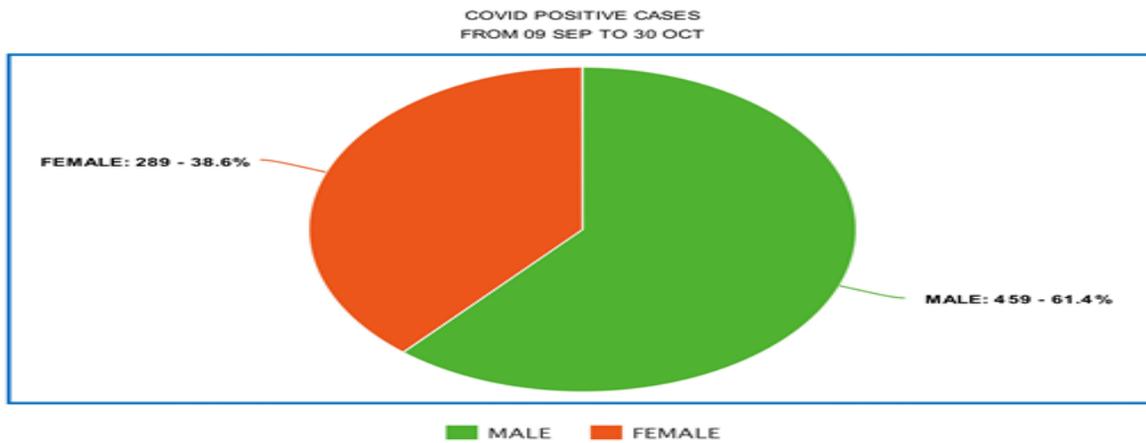Table 1 shows that of the total 24000,748 (3.1%)were positive samples.

Fig 1:Gender wise distribution

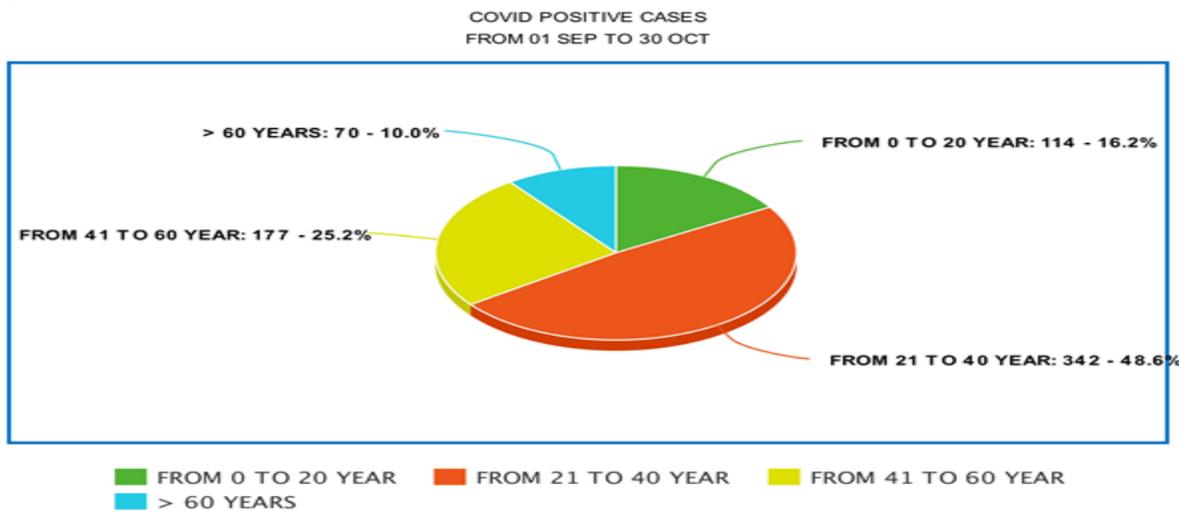Fig. 1 shows that 289(38.6%) females and 459(61.4%) males were infected.

Fig 2:Age wise distribution of cases

Fig 2shows that 0-20 years had 16.2%, 21-40 years had 48.6%, 41-60 years had 25.2% and >60 years had 10% of cases. Most affected group was in age of 21-40 years which is almost half of the total positives that is 342(48.6%) were infected.

Discussion

Transmission of SARS-CoV-2 can occur through direct, indirect, or close contact with infected people through infected secretions such as saliva and respiratory secretions or their respiratory droplets,

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which are expelled when an infected person coughs, sneezes, talks or sings. Respiratory droplets are >5-10 μm in diameter whereas droplets ≤5μm in diameter are referred to as droplet nuclei or aerosols[7]. Respiratory droplet transmission can occur when a person is in close contact (within 1 metre) with an infected person who has respiratory symptoms (e.g. coughing or sneezing) or who is talking or singing; in these circumstances, respiratory droplets that include virus can reach the mouth, nose or eyes of a susceptible person and can result in infection. Indirect contact transmission involving contact of a susceptible host with a contaminated object or surface (fomite transmission) may also be possible[8]. In December 2019, a novel coronavirus (SARS-CoV-2) emerged in China and rapidly spread globally including India. In India, the first case of COVID-19 was reported on January 30, 20201. As of June 20, 2020, 395,048 laboratory-confirmed cases and 12,948 deaths were reported from India. There is a wide variation in the reporting of cases across the States/Union Territories and across the districts within each State. The case reporting is based on the testing of individuals by real-time reverse transcription polymerase chain reaction (Prevalence of SARS-CoV-2 infection in India: Findings from the national serosurvey, May-June 2020) [9]. The purpose of this study was to ascertain which section of the society is more prone to the infection and accordingly those section will be advised to take extra precaution.We found that of the total 24000,748 (3.1%)were positive samples. A study by JSS Institute of Economic Research and Population Research Centre, Dharwad has shown that men in the 20-49 years age group make up a huge chunk of those infected with SARS Cov2 virus. An analysis of background characteristics of 67,420 Covid cases in Karnataka between March 10 and July 20, reveal 63% of them were men while remaining 37% were females of those infected, the proportion of men in the 30-59 years of age group was high (64%-65%) while 23% fell in 30-39 years age group 21%. In the age group of 20-29 years and 18% in 40-49 years of age group[10]. It is clear from available evidence and experience, that limiting close contact between infected people and others is central to breaking chains of transmission of the virus causing COVID-19. The prevention of transmission is best achieved by identifying suspect cases as quickly as possible, testing, and isolating infectious cases. In addition, it is critical to identify all close contacts of infected people so that they can be quarantined to limit onward spread and break chains of transmission[11]. By quarantining close contacts, potential secondary cases will already be separated from others before they develop symptoms or they start shedding virus if they are infected, thus preventing the opportunity for further onward spread. The incubation period of COVID-19, which is the time between exposure to the virus and symptom onset, is on average 5-6 days, but can be as long as 14 days. Thus, quarantine should be in place for 14 days from the last exposure to a confirmed case. If it is not possible for a contact to quarantine in a separate living space, self-quarantine for 14 days at home is required; those in self-quarantine may require support during the use of physical distancing measures to prevent the spread of the virus[12].

Conclusion

Authors found that most affected group was in age of 21-40 years. Males were affected more than females.

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