Incidence Of Covid-19 In Anantapur District Detected By RT-PCR.

[1]Dr. Sumanjali Sagibanda, [2]Dr. V. Sarojamma, D, [3]Dr. B. Nagajyothi, [4]Dr. K. Shalem Raj
[1]Final Year Post Graduate, [2,3]Associate Professor, [4]Senior Resident
[1,2,3]Department of Microbiology, GMC, Anantapur, [4]Department of General surgery, GMC, Anantapur.
12-4-386, Obuldev Nagar, Near Cement Godown, Anantapur, Andhra Pradesh-515001

*Corresponding Author:
Dr. V. Sarojamma
D. Associate professor,department of Microbiology,GMC,Anantapur, Andhra Pradesh-515001

Abstract

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the seventh human coronavirus, was discovered in Wuhan, Hubei province, China, during the recent epidemic of pneumonia in January 2020 [1,2]. Since then, the virus has spread all over the world.As the cases continued to rise,the outbreak was declared as public health emergency of international concern(PHEIC)on 30th january 2020. As of 20 May 2020, it has infected 4,806,299 people and caused 318,599 deaths [3]. In India the first case report was from kerala in january 2020,where three imported cases were reported.As of August 2020 more than 35lakh cases were reported from India with over 60,000 deaths.

SARS-COV-2 comprises of a positive-sense single-stranded RNA surrounded by a nucleocapsid protein.envelope consists of spike protein which helps in attachment to host cells,membrane glycoprotein and envelope protein.non structural proteins include several enzymes like RNA-dependant RNA polymerase(RdRp)which help in replication of virus.

Real-time RT-PCR is the gold standard test for diagnosis of COVID-19.The advantage of this method is its accuracy of detection as well as the ability to run upto 90 samples in a single run.Most of the commercial kits target two genes,performed in single reaction-one for screening and other for confirmatory.Gene targets for screening are genus specific which include spike protein,envelope protein,membrane protein.Gene targets for confirmation are species specific for SARS-CoV-2 are RNA-dependant RNA polymerase(RdRp),open reading frames(ORF).

Keywords: SARS-CoV-2, COVID-19, RT-PCR

Introduction

Aim: This is the only study from in and around Anantapur district documenting the incidence of COVID-19.

Materials And Method:

Materials: Nasopharyngeal swabs were collected from the suspected patients with symptoms of flu taken from in and around Anantapur district of Andhra Pradesh in July 2021.samples were transported by VTMs(viral transport media)

**Method:** It is a retrospective observational study.RT-PCR method is used with the kit by name GENES2ME.

Results

In July, a total of 1,23,799 nasopharyngeal swabs were collected from the district of Anantapur, Andhra Pradesh, and were evaluated for the presence of SARS CoV 2 RNA virus detected by RT PCR. A total of 1963 cases were detected positive for COVID 19 and the remaining were negative.

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Total samples	123799
Positve for COVID 19	1963
Negative for COVID 19	121836
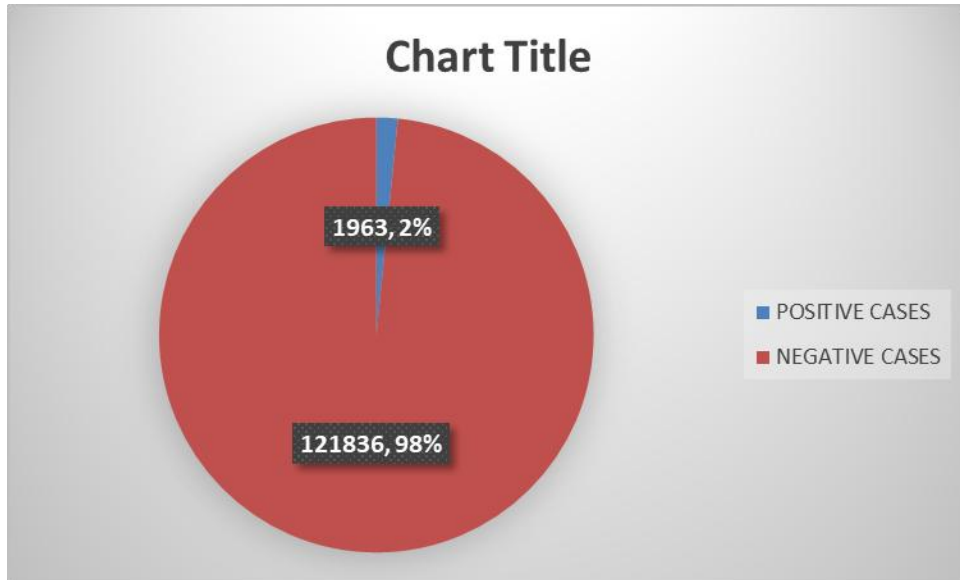
In the total number of positive cases of 1963, male cases are 1116, and female cases are 847 evaluated in July 2021.
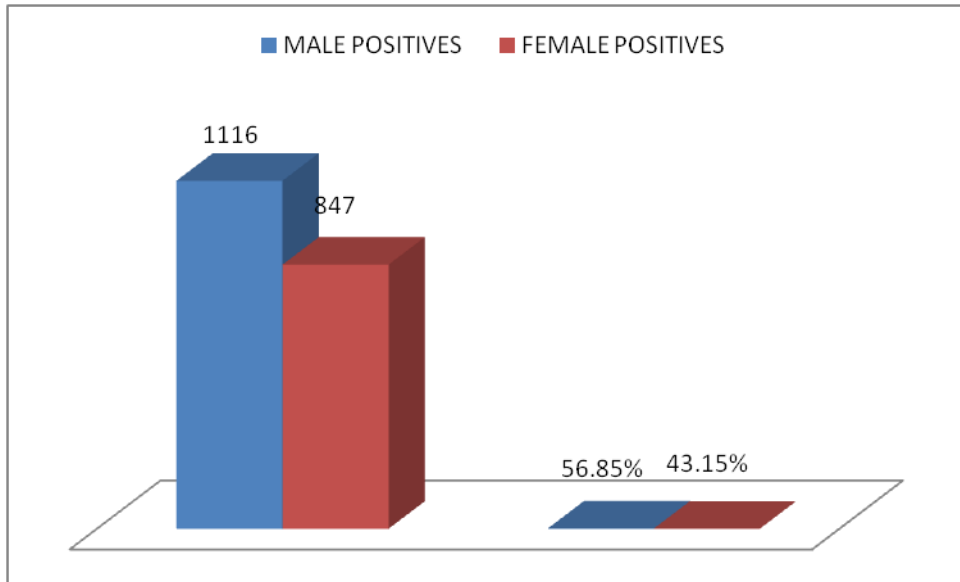

Age distribution

Of the total positive cases of 1963, the number of positive cases under 18 years of age is 172 of which female c ases are 80 and male cases are 92.

In between the age group of 19 to 30 years, the total positive cases are 531 in females 232, and males 299.

In between the age group of 31 to 60 years, the total number of positive cases is 1000 of which females are 427 and males are 573.

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In the age group of more than 61 years number of positive cases are 260 of which male are 152 and female are 108.

AGE GROUP	TOTAL POSITIVES	MALE POSITIVES	FEMALE POSITIVES
1-18 YEARS	172	92	80
19-30 YEARS	531	299	232
31-60 YEARS	1000	573	427
60 AND ABOVE YEARS	260	152	108
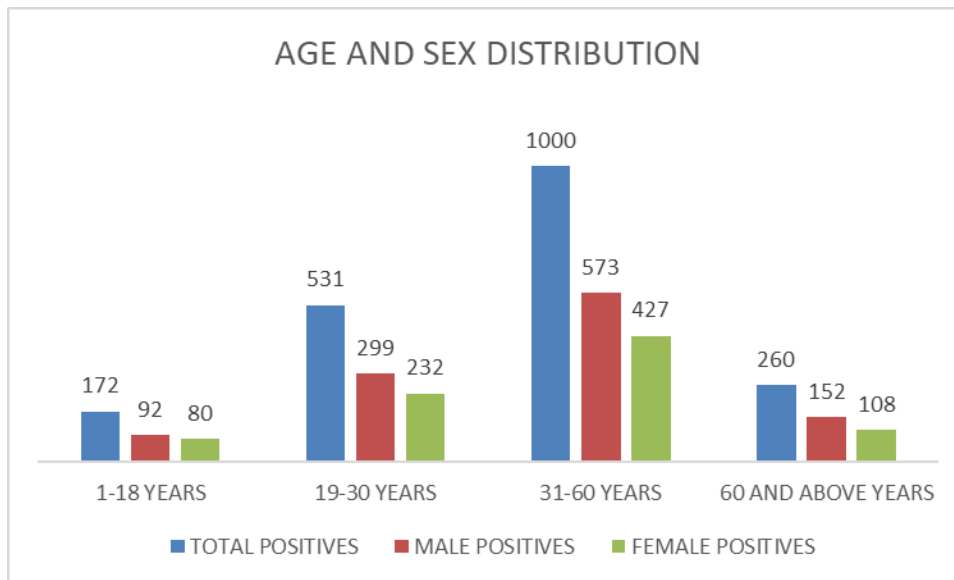
Discussion:

The COVID-19 pandemic has created a great loss to the whole world with its rapid spread. So, early diagnosis using detection methods like RT-PCR can provide treatment to patients early and also can help in its spread by isolating the patients.

RT-PCR kit used is GENES2ME. It can detect three genes RdRp, N-gene, and E-gene. Simultaneously in a single reaction tube, the positive patients were detected with the presence of these three genes.

In the present study 2% were positive males were 56.85% and females were 43.15%.

In the age distribution of 31 to 60 years, more patients were affected with COVID-19 when compared with other age groups.

Conclusion :

Finally, it can be concluded that early detection and early diagnosis using RT-PCR can help provide early treatment and isolation of positive cases by preventing the rapid spread of this virus.

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