

A STUDY ON PREVALENCE OF COVID-19 AMONG THE UNDERGRADUATE
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ABSTRACT

Introduction: The International Committee on Taxonomy of Viruses (ICTV) named the virus as SARS-CoV-2 and the disease as COVID-19. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes coronavirus disease 2019 (COVID-19), has spread rapidly around the world since its emergence in Wuhan, China, in late 2019 and has been declared as Public Health Emergency of International Concern on 30 January 2020 by the Director-General of World Health Organization (WHO). COVID-19 is currently a global health concern resulting in increased morbidity and mortality among population. Present study aims to determine prevalence of COVID-19 infection among undergraduates in medical college and to understand the risk factors for infection.

Methodology: A cross-sectional study was conducted among undergraduate medical students of Guntur district, Andhra Pradesh in the month of December, 2020. Data was collected from undergraduates by developing a questionnaire in Google forms. A self-designed and semi-structured questionnaire was developed for collection of data and the same questionnaire was created in Google forms. Questionnaire was sent to the students through respective WhatsApp groups. The data was analyzed using MS EXCEL and epiinfo software. **Results:** Among 211 students, 36.96% (78) were tested for COVID-19. 8.5% (18) were found to be positive. 23.2% (49) were symptomatic. Among the positive patients 89% (16) were symptomatic and 11% (2) were non-symptomatic. Of those who were tested positive 22% (4) were primary contacts, 61% (11) were secondary contacts. 39%, 28%, 6% had fever, cough, rhinorrhoea respectively. On an average COVID-19 positive patients suffered for 7-10 days since the onset of symptoms. 66% (12) received treatment in the hospital. Second testing was done among 72% (13) of the positive patients. **Conclusion:** The prevalence of COVID-19 among undergraduates (8.5%) is found to be high when compared to either national prevalence (0.7%) or state prevalence (0.9%).

KEYWORDS: Covid-19, primary contact, secondary contact, undergraduate medical students.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) was first detected in Wuhan city, China in December 2019.^[1,2] On 30 January 2020, the Director-General of WHO declared that the outbreak constituted a Public Health Emergency of International Concern. On 11 March 2020, after evaluating its seriousness and spread, the Director-General announced that the outbreak was to be considered as a pandemic that could still be controlled.^[3] According to current evidence, the causative SARS-CoV-2 virus is primarily transmitted between people through respiratory droplets and contact routes. Transmission of the virus can therefore occur via direct contact with infected people, via indirect contact with surfaces in the immediate environment or via objects used on an infected person (for example, a stethoscope or thermometer). Airborne transmission may also be possible in specific circumstances and settings in which procedures or support treatments that generate aerosols

are performed.^[4,5] Similar to SARS-CoV, the oral-fecal route may be another route of transmission of the virus. SARS-CoV-2 RNA has been detected in the stool of patient with COVID-19 pneumonia.^[6] Asymptomatic and pre-symptomatic individuals may be able to transmit infection. People who come into contact with a COVID-19 patient, and/or who care for COVID-19 patients, are most at risk of infection. This inevitably places health workers at high risk. Health workers play a critical role, not only in the clinical management of patients but also in ensuring that adequate infection and prevention control (IPC) measures are implemented in health care facilities. Assessing the potential risk factors for SARS-CoV-2 infection among health workers is essential for characterizing virus transmission patterns, preventing future infections of health workers and preventing health-care-associated infection with SARS-CoV-2.^[7] The undergraduate students since they spend a lot of time in the medical college and hospitals they are prone to

COVID-19 infection. This study was conducted to determine prevalence of covid-19 infection among undergraduates in medical college and to understand the risk factors for infection.

MATERIALS AND METHODS

Study type and setting

A descriptive, cross-sectional study was conducted in medical college of Guntur district in the month of December 2020.

Study population

The study population were undergraduate medical students.

Sample size

A convenient sample of 200 students were taken. 211 students have responded.

Data collection tools and techniques

A self designed, pre-tested and semi structured questionnaire was developed for collection of data and the same questionnaire was created in Google forms. Validity of the questionnaire was done by conducting pilot study among 25 students by sending Google forms, made necessary modifications in the questionnaire and sent to the students through respective whatsapp groups, with periodic reminders the google forms were active for a period of 1 week for collection of data.

Data analysis

The data was analyzed using MS EXCEL and epiinfo software.

RESULTS AND DISCUSSION

Out of all the undergraduate students, 211 students responded. Among them 78 (36.96%) students were tested for COVID-19. Among those tested, 18 (8.5%) students were found to be positive.

Among the positive students, 10 (56%) students were male and 8 (44%) students were female [figure1]. Association between sex distribution and COVID-19 positivity is not found to be significant ($p=0.4$). when compared to the study conducted in 13 states, where females under study were significantly high (71.9%) and males were (28.1%).^[7]

Of all positive students, 13 (72%) students belong to urban areas and 5 (28%) students belong to rural areas [figure2]. Association between residence and COVID-19 positivity is not significant ($p=0.9$)

Of those who were tested positive, 4 (22%) students were primary contacts, 11(61%) students were secondary contacts. Only 3 students had travel history.

Among the positive patients, 16 (89%) students were found to be symptomatic and 2(11%) students were asymptomatic (Table 1).

This study revealed that among the total 18 covid positive students 7 (39%) students had fever, 5 (28%) students had cough, 1 (5%) student had shortness of breath, 1 (5%) student had sore throat, 1 (5%) student had gastrointestinal symptoms (nausea, vomiting, diarrhoea), 1 (5%) student had rhinorrhoea and 2 (11%) students had no symptoms at all (Table 2). when compared to general population in which prevalence of symptoms is fever (83%), cough (82%) and shortness of breath (31%).^[8] Fever cough shortness of breath is not that prevalent in the present study.

On an average covid-19 positive students suffered for 7-10 days since the onset of symptoms. 12 (66%) students received treatment in the hospital.

Among the 18 covid positive patients, 12 (67%) students got tested since they have a family member with confirmed infection. 6 (33%) students were tested since they were symptomatic (Table 3).

Of these 18 covid positive patients, 13 (72%) students have undergone second testing and 5 (28%) students did not undergo second testing. Remaining students might have not undergone second testing because second testing was not considered mandatory according to ICMR guidelines.

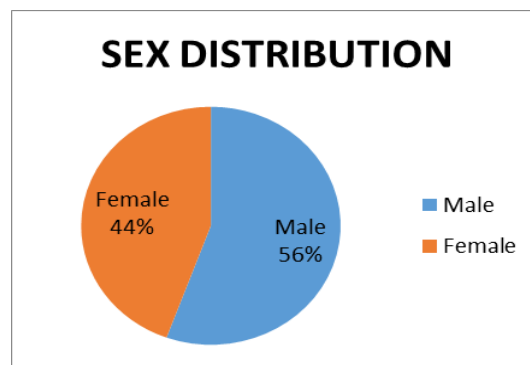


Figure 1: Sex distribution of covid-19 positive students.

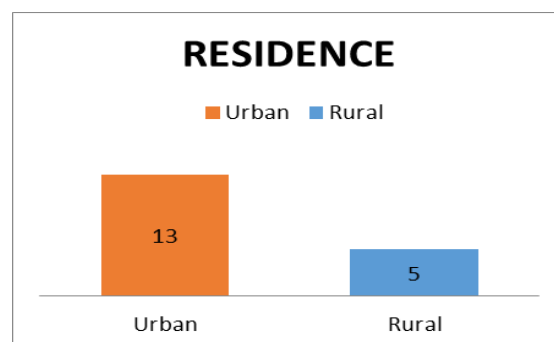


Figure 2: Distribution of covid-19 students in urban and rural areas.

Table 1: symptomatic and asymptomatic COVID-19 positive students.

Symptoms	Frequency	Percentage
Symptomatic	16	89
Non Symptomatic	2	11

Table 2: Symptoms of COVID-19 positive students.

SYMPTOMS	FREQUENCY	PERCENTAGE
Fever	7	39
cough	5	28
Shortness of breath	1	5
Sore throat	1	5
Gastrointestinal (nausea, vomiting, diarrhoea)	1	5
Rhinorrhoea	1	5
None	2	11

Table 3: Reason for getting tested for COVID-19 infection.

REASON FOR TESTING	FREQUENCY	PERCENTAGE
Screening - symptomatic	6	33
Family member with confirmed infection	12	67

CONCLUSIONS

In the present study, total 211 students were studied. 78 students were tested for COVID-19. 18 students were tested COVID-19 positive. Prevalence of COVID-19 in undergraduate students is found to be high (8.5%). 83% (15) of them have positive contact history. 89% (16) were symptomatic. The prevalence of COVID-19 among undergraduates (8.5%) is found to be high when compared to either national prevalence (0.7%) or state prevalence (0.9%). High prevalence of COVID-19 in undergraduate students might be because they were high active age group. Following covid appropriate behaviour like using masks, sanitizer and following social distancing could provide significant protection from COVID-19 infection.

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Nil.

Conflicts of interest

There are no conflicts of interest

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