



**A COMMUNITY BASED STUDY ON PREVALENCE AND POST VACCINATION
EFFECTS OF COVID-19**

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ABSTRACT

Background: Coronavirus disease (COVID-19) caused by severe acute respiratory syndrome corona virus 2(SARS-CoV-2), is a global pandemic. There are several factors that are associated with increased prevalence of COVID-19 such as Age, Gender, Comorbid Conditions, Social History. The symptoms of COVID-19 can be classified as MILD (sore throat, headache, aches and pains, diarrhea, rash on skin or discoloration of fingers or toes, Red or irritated eyes), MODERATE (fever, cough, tiredness, loss of taste or smell, sore throat), SEVERE (difficulty breathing or shortness of breath, loss of speech or mobility, confusion, chest pain). **Aim and Objectives:** To assess the prevalence of COVID-19 among different populations with comorbidities and to assess the post vaccination effects of COVID-19 by estimating the percentage of population suffered from covid in a community, to estimate the reoccurrence and to assess the post vaccination symptoms. **Methodology:** A prospective observational study was performed in and around Hyderabad as a community based survey with a sample size of 150 subjects who were selected based on inclusion and exclusion criteria. Data was collected. The results were analysed using simple mean and percentage method. **Results and Discussion:** Out of all 150 subjects, there was equal incidence in both males and females i.e., 50%, about 48% were in the age group 41-76. The percentage of subjects with smoking as a social habit is 20.7%, alcohol consumption is 36% and tobacco consumption is 4%. Comparing the co morbidity in Covid -19 patients, hypertension was the highest found comorbidity with a percentage of 28% and least was asthma with 2.6%. The most commonly found symptoms were A, B (headache, cough, fatigue, loss of smell, sore throat, loss of taste, breathing difficulty, fever, shortness of breath) with a percentage of 91.3% and the least observed symptoms were B (loss of taste, breathing difficulty, fever, shortness of breath). 61.3% of subjects have mild severity, 32.7% with moderate severity followed by 6.0 with major severity. Around 17% of subjects were affected with covid during the 1st wave, 67% were affected during the 2nd wave, while 16% were affected during the 3rd wave. Around 17% of subjects were affected with covid during the 1st wave, 67% were affected during the 2nd wave, while 16% were affected during the 3rd wave. Around 22.6% of subjects were recovered in 14 days, 20% were recovered in 10 days, 16.6% in 7days, 10.6% in 15days, 8% in 12days, 4.6% for 5 and 8days, 2.6% for 20 and 6 days. While analysing the reoccurrence, 97% of subjects' do not have any reoccurrence of covid. Around 91% of subjects were vaccinated with both dose 1 and dose 2, followed by 7% with only dose 1, while 2% were not vaccinated. Around 80% of subjects were vaccinated with covidshield, 18% with covaxin and 2% with Pfizer. While analysing the post-vaccination symptoms, 72% of subjects experienced fever, chills, body pains, joint pains, headache as post vaccination symptoms and 2.7% experienced diarrhoea, nausea, rash, allergy and 24% experienced a combination of the above all symptoms. **Conclusion:** As enumerated from the current study, COVID-19 infection has been reported from all different age group patients. Severity of infection could be varied from asymptomatic infection to critical disease. Clinical severity of COVID-19 was defined in 5 different groups. They are: asymptomatic, mild, moderate, severe and critical. The post vaccination symptoms experienced were fever, chills, body pains, joint pains.

KEYWORDS: Covid-19, Comorbidities, Symptoms, Post-vaccination effects.

INTRODUCTION

Coronavirus disease 2019 (COVID-19) is a contagious disease which is caused by a virus, the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2).

COVID-19 has spread rapidly into a global pandemic ever since the initial reports in December 2019 in China, which has caused millions of deaths. The disease affects multiple systems of the body in the acute phase,

represented by acute pneumonia.^[1] Several studies have reported that COVID-19 survivors might have persistent symptoms, impaired lung function, and chest imaging abnormalities. At 6 months after symptom onset, 76% of patients reported at least 1 symptom, the most common being fatigue, muscle weakness, and sleep difficulties.^[2,3,4] Symptoms of COVID-19 are variable, but often include fever, cough, headache, fatigue, breathing difficulties, loss of smell, and loss of taste.^[5,6,7] Symptoms may begin one to fourteen days after exposure to the virus to an individual. COVID-19 transmits when people breathe air contaminated by droplets and small airborne particles containing the virus. Symptoms that are associated with SARS-CoV-2 infection are diverse and affect different systems in the body such as respiratory (cough, sore throat, rhinorrhea, dyspnea), musculoskeletal (myalgias), gastrointestinal (diarrhoea, vomiting), and neurological (headaches, myopathy, ageusia, anosmia).^[8] Several COVID-19 vaccines have been approved and distributed in various countries, which have initiated mass vaccination campaigns. Other preventive measures include physical or social distancing, quarantining, and ventilation of indoor spaces, covering coughs and sneezes, hand washing, and keeping unwashed hands away from the face. The most commonly-reported events with COVID-19 vaccines are expected vaccine side effects, such as headache, fatigue, muscle and joint pain, fever and chills and pain at the site of injection. As immunization for covid-19 is one of the most successful and cost-effective health interventions to prevent COVID-19, vaccines against COVID-19 are considered to be of great importance to prevent and control COVID-19. Therefore, it is important to vaccinate against COVID-19 in most of the population, as it can have large consequences for the success of a vaccination program that will help in developing potentially large health and economic consequences.^[9]

RESULTS

Table 1: Age Wise distribution of subjects with covid-19.

Age group	Frequency	Percentage
14-25	43	29
26-40	35	23
41-76	72	48
Total	150	100%

Table 2: Distribution of Subjects based on smoking.

Smoke	Frequency	Percentage (%)
Yes	31	79.3
No	119	20.7
Total	150	100

Table 3: Distribution of subjects based on alcohol consumption.

Alcohol	Frequency	Percentage (%)
Yes	39	36
No	111	74
Total	150	100

Need of the study

The Long Term Health Outcomes And Symptom Burden Of COVID-19 Remain Largely Unclear and the reoccurrence of covid need to be known and the vaccination status need to be known among the community.

AIM AND OBJECTIVES

Aim

A community Based Study on prevalence and post-vaccination effects of COVID-19.

Objectives

- To evaluate the symptoms and health outcomes among survivors of covid 19 infection after discharge
- To study the reoccurrence of covid 19 in patients with comorbidities.
- To determine the vaccination status post-vaccination effect

METHODOLOGY

The study was conducted as a community based survey in and around Hyderabad. The study involves a total of 150 patients affected with COVID-19. The study procedure was explained to the subjects and a written consent was obtained from them. Demographic details along with medical, personal and family history was collected along with the symptoms of covid and vaccination status and post-vaccination effects in a data collection form. The data was assessed for prevalence, symptoms and vaccination status and post-vaccination effects of subjects.

Statistical analysis

The collected data was transcribed in MS Excel and analysis was done.

Table 4: Distribution of subjects based on use of tobacco.

Tobacco	Frequency	Percentage (%)
Yes	06	04
No	144	96
Total	150	100

Table 5: Distribution of subjects based on past medical history.

Past medical history	Frequency	Percentage (%)
Hypertension	42	28
Diabetes	25	16.6
Coronary artery Disease	7	4.6
Thyroid	5	3.3
Heart surgery	1	0.6
Asthma	4	2.6
Multiple sclerosis	1	0.6
Mastectomy	1	0.6
Nil	93	62
Total	150	100

Table 6: Distribution of subjects based on covid symptoms.

Symptoms	Frequency	Percentage (%)
A	06	4.0
B	02	1.3
C	05	3.3
A, b	137	91.3
Total	150	100

Table 7: Distribution of subjects based on severity.

Severity	Frequency	Percentage (%)
Mild	92	61.3
Moderate	49	32.7
Severe	09	6.0
Total	150	100

Table 8: Distribution of subjects based on attack of covid during different waves.

Attack of covid during	Frequency	percentage (%)
1 st wave	26	17
2 nd wave	101	67
3 rd wave	24	16
Total	150	100

Table 9: Distribution of subjects based on reoccurrence.

Reoccurrence	Frequency	Percentage (%)
Yes	4	03
No	146	97
Total	150	100

Table 10: Distribution of subjects based on duration of recovery.

Duration of recovery(days)	Frequency	Percentage (%)
14	34	22.6
10	30	20
07	25	16.6
15	16	10.6
12	12	8
20	04	2.6
05	07	4.6
06	04	2.6
08	07	4.6

Others	11	7.3
Total	150	100

Table 11: Distribution of subjects based on dose of vaccine.

Vaccination	Frequency	Percentage (%)
Dose1	11	7
Dose 1,2	136	91
Nil	3	2
Total	150	100

Table 12: Distribution of subjects based on vaccine taken.

Vaccine taken	Frequency	Percentage (%)
Covidshield	120	80
Covaxin	27	18
Pfizer	3	2
Total	150	100

Table 13: Distribution of subjects based on vaccinationsideeffects.

Vaccination sideeffects	Frequency	Percentage (%)
A	108	72
A,b	36	24
B	4	2.7
Nil	2	1.3
Total	150	100

DISCUSSION

Out of all 150 subjects, there was equal incidence in both males and females i.e., 50%. About 48% were in the age group 41-76. The percentage of subjects with smoking as a social habit is 20.7%, alcohol consumption is 36% and tobacco consumption is 4%. Comparing the co morbidity analysis in covid -19 patients, hypertension was the highest found comorbidity with a percentage of 28% and asthma with 2.6%. The most commonly found symptoms were A, B (Headache, cough, fatigue, loss of smell, sore throat, loss of taste, breathing difficult, fever, shortness of breath) with a percentage of 91.3% and the least observed symptoms were B (loss of taste, breathing difficulty, fever, shortness of breath), 61.3% of subjects have mild severity, 32.7% with moderate severity followed by 6.0 with, major severity. Around 17% of subjects were affected with covid during the 1st wave, 67% were affected during the 2nd wave, while 16% were affected during the 3rd wave. Around 17% of subjects were affected with covid during the 1st wave, 67% were affected during the 2nd wave, while 16% were affected during the 3rd wave. Around 22.6% of subjects were recovered in 14 days, 20% were recovered in 10 days, 16.6% in 7 days, 10.6% in 15 days, 8% in 12 days, 4.6% for 5 and 8 days, 2.6% for 20 and 6 days. While analysing the reoccurrence, 97% of subjects do not have any reoccurrence of covid. Around 91% of subjects were vaccinated with both dose 1 and dose 2, followed by 7% with only dose 1, while 2% were not vaccinated. Around 80% of subjects were vaccinated with covidshield, 18% with covaxin and 2% with Pfizer. While analysing the post-vaccination symptoms, 72% of subjects experienced fever, chills, body pains, joint pains, headache as post vaccination symptoms and 2.7% experienced diarrhoea,

nausea, rash, allergy and 24% experienced a combination of the above all symptoms.

CONCLUSION

As enumerated from the current study, there is equal incidence for COVID-19 in both males and females and all age groups are prevalent for COVID-19. The most found co morbidities were hypertension followed by diabetes and coronary artery disease. From our study it was concluded that majority of them experienced mild severity and only a small number of subjects experienced major severity. It was concluded that majority of subjects were not hospitalised and were self-quarantined at home. It was concluded that most of the subjects were affected during the 2nd wave. Approximately most of the subjects recovered in 14 days. Majority of subjects were vaccinated with both doses and covidshield was the most used vaccine. The post vaccination symptoms experienced were fever, chills, body pains, joint pains.

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