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A STUDY TO ASSESS THE PREVALENCE OF COVID INFECTION AMONG VACCINATED PEOPLE IN A SELECTED COMMUNITY OF NEW DELHI.

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Abstract: COVID-19 is an infectious disease caused by a newly discovered coronavirus. The novel Corona virus, officially known as SARS COV-2 or coronavirus disease 2019 (COVID-19), was first reported in December 2019 as a cluster of acute respiratory illness in Wuhan, China from where it spread rapidly to over 198 countries. Vaccines have been a key strategy for improving health outcomes and life expectancy by controlling and preventing infectious diseases. The development of a safe and effective COVID-19 vaccine is a critical step to halt the pandemic. The aim of this study was to assess the prevalence of COVID infection among the vaccinated people in a selected community of New Delhi. The research approach was quantitative and descriptive research design was used. The sample selected was vaccinated people from a selected community of New Delhi. Structured Questionnaire Interview was developed to collect the data, which showed the prevalence was more in males than females who were in the age group of 21-35 years and after first dose of covishield.

Index Terms - COVID-19 infectious, vaccination, vaccine, community ,Prevalance.

I. INTRODUCTION

"Every great dream begins with a dreamer. Always remember, you have within you the strength, the patience, and the passion to reach for the stars to change the world."

-Harriet Tubman

COVID-19 is an infectious disease caused by a newly discovered coronavirus. The novel Corona virus, officially known as SARS COV-2 or coronavirus disease 2019 (COVID-19), was first reported in December 2019 as a cluster of acute respiratory illnesses in Wuhan China from where it spread rapidly to over 1989 countries. It was declared as a global pandemic by WHO on 12th March 2020. (1)

SARS COV-2 belongs to the larger family of ribonucleic acid (RNA) viruses leading to infection from the common cold to move serious disease such as middle cast respiratory syndrome (MERS - COV) and serve acute respiratory syndrome (SARS- COV). The COVID-19 virus spreads primarily through droplets of saliva or discharge from the nose when an infected person coughs or sneezes, so it's important to practice respiratory etiquette. (2)

A virus caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) was initially detected in Wuhan city, China. Subsequently, on march 11,2020, the WHO declared COVID-19 as a pandemic due to the alarming levels of spread and severity of the infection. SARS-CoV-2 infection has been associated with a wide spectrum of illnesses that range from asymptomatic, mild to severe, or fatal. To slow the spread of SARS-CoV-2 infection and mitigate its health effects, nations around the world have implemented different control measures, such as social distancing, partial and comprehensive lock downs, closing schools and businesses, and/or wearing face masks in public. [3]

Vaccines have been a key strategy for improving health outcomes and life expectancy by controlling and preventing infectious diseases. The development of a safe and effective COVID- 19 vaccine is a critical step to halt the pandemic. By December 2020, there were 61 COVID-19 vaccine candidates awaiting clinical evaluation and 172 candidates in pre clinical evaluation. Nevertheless, misinformation and conspiracy theories surrounding COVID-19 vaccines can highly influence vaccines' uptake once available. [4]

The objectives of this study are to assess the prevalence of covid infection among the vaccinated people and to find the association of COVID infection with certain demographic variables like occupation, dose of vaccine and type of vaccine.

II. RESEARCH METHODOLOGY

The data was analyzed as per the objectives of the study in April 2022. A quantitative research approach with descriptive research design was used to assess the prevalence of covid infection among the vaccinated people and to find the association of covid infection with certain demographic variables like occupation, dose of vaccine and type of vaccine, in selected community of New Delhi. Permission from the Principal and ethical clearance from the Organizational Review Board was taken before starting the study. A total of 60 samples (community people) were taken. Total convenient sampling technique was used for data collection. The samples were given structured questionnaires interview to give the responses. Before the interview, written consent was taken, aims and objectives were explained to them. The Structured Questionnaire Interview to assess the prevalence of covid infection comprised of one sections. Section 1 consists of Demography Performa including 13 items to collect information on subject's demography characteristics (age, gender, illness, occupation, suffered from COVID 19, anyone suffered from COVID 19, from where they got infection, covid 19 vaccine, which vaccine, dose of vaccination, treatment during covid 19, duration of hospitalization)

IV. RESULTS AND DISCUSSION

Figure 1 to figure 4 depict the demographic variables of the samples. Half of the subjects (42%) were in the age group of 21-35years, some (32%) were in the age group of 36-50 years, a few (23%) were in the age group of 51-65 years and hardly (3%)were in the age group above 65 years. Most of the samples (36%) had private jobs, (20%) had their own business, (18%) were unemployed, (12%) were students, (7%) had government jobs (7%) were doing work from home/retired. Most of the subjects (82%) got Covid shield vaccination, (16%) got Covaxin, (2%) got sputnik. Most of the subjects (60%) were infected after the first dose, (17%) were infected after the second dose and (23%) did not suffer.

Table 1 depicts the association of post vaccinated COVID infection with demographic variables like occupation, dose of vaccine and type of vaccine. There was a significant association between the prevalence of COVID infection and the dose of vaccine at 0.05 level of significance.

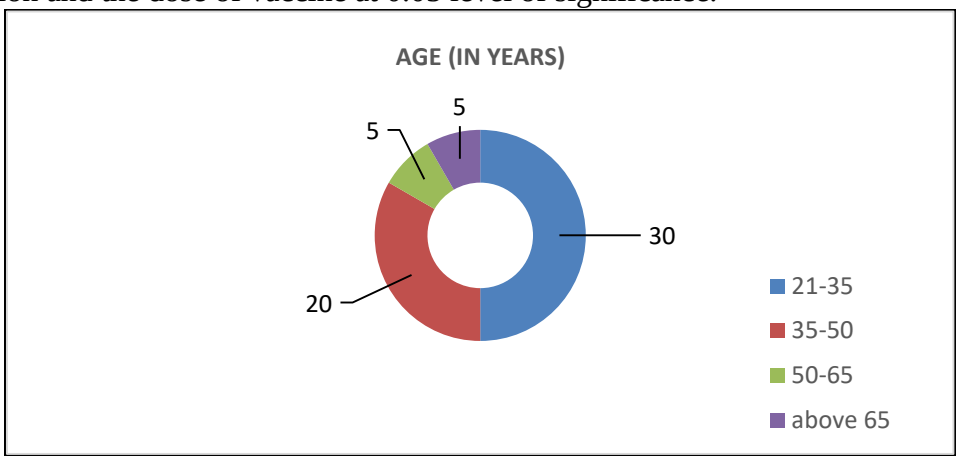

Figure1: Percentage distribution of samples as pre their age (in years)

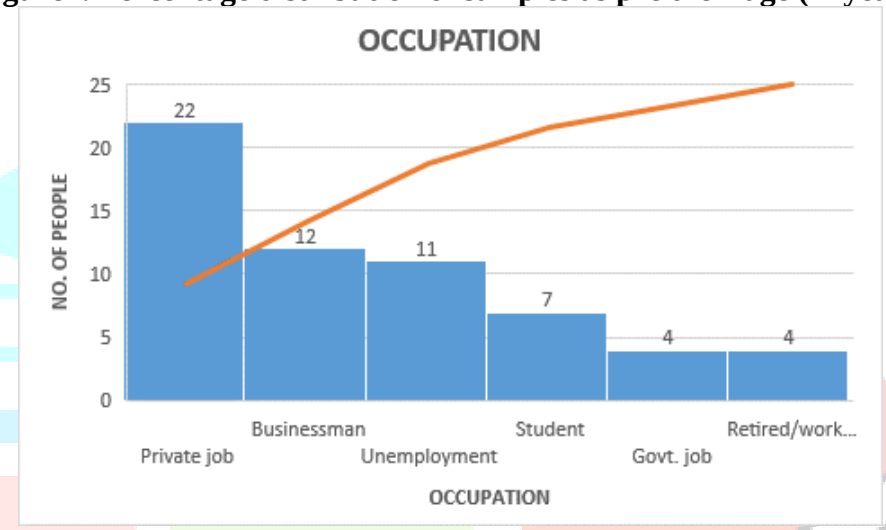

Figure2: Percentage distribution of subjects as pre their occupation.

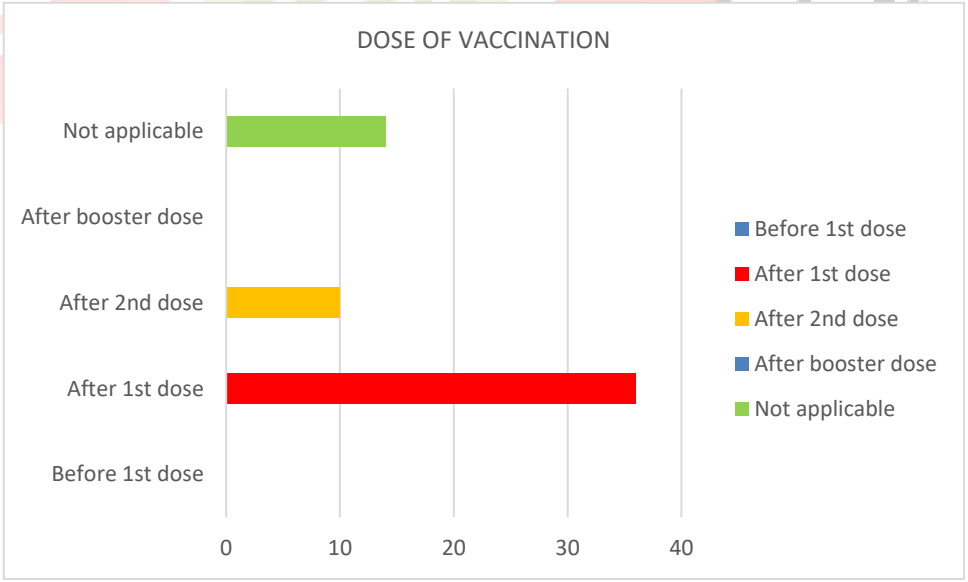

Figure3: Percentage distribution of subjects as per the dose of vaccine.

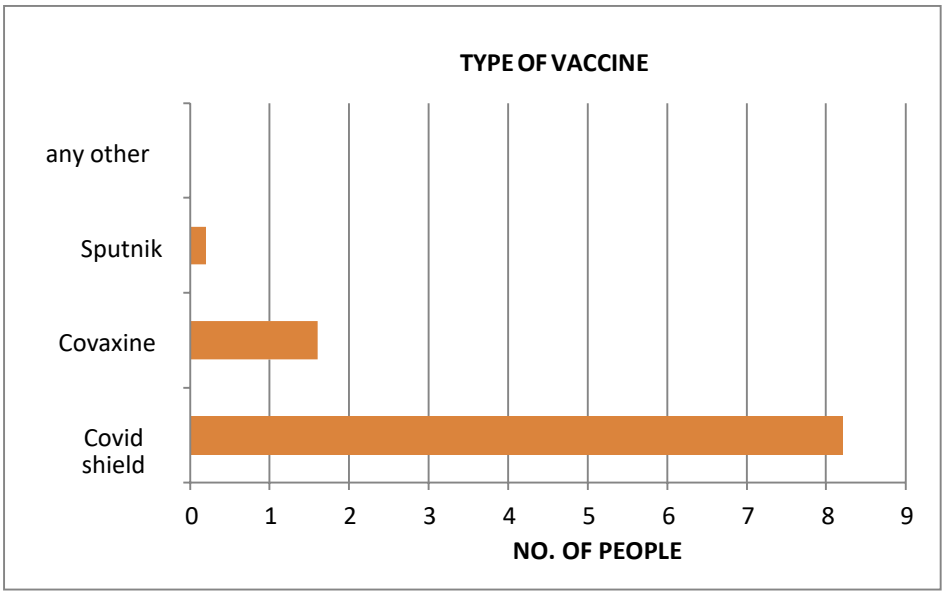

Figure4: Bar graph showing the percentage of type of COVID vaccine.

Table 1: Association of post-vaccinated COVID infection with demographic variables

The present study has revealed that the prevalence of COVID infection was more in males than females who were in the age group of 21-35 years and after first dose of covishield. There was a significant association between COVID infection and the dose of vaccine at 0.05 level of significance.

Discussion and Conclusion

Vaccines are the most effective way to prevent infectious disease. A vaccine is a way to build the body's natural immunity to a disease before getting sick. COVID-19 vaccines are effective at protecting people from getting seriously ill, being hospitalized and even dying. In India, Sputnik, Covaxin and covishield vaccines were used to vaccinate the people. All COVID -19 vaccines approved by WHO for emergency use listing have been through randomized clinical trials to test their quality, safety and efficacy. People who are vaccinated may still get COVID-19. When people who have been vaccinated get COVID-19, they are much less likely to experience sever symptoms than people who are unvaccinated.

Our results contradict the result of the study done by Aman Thathai in September 2021, which stated that samples with the first dose had less clinical infection than the samples with the second dose.[(5)]

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DEMOGRAPHIC PROFILE	COVID INFECTION		X^2 CALCULATED	X^2 TABULAR	Df	SIGNIFICANCE STATUS
	ABOVE MEDIAN	BELOW MEDIAN				
1. OCCUPATION						
Private job	19	3	1.7906	11.07	5	Not significant
Government	3	1				
Businessman	5	7				
Retied/working from home	4	0				
Student	6	1				
Unemployed	9	2				
2. TYPE OF VACCINE						
Covidsheild	36	13	0.36847	7.81	3	Not significant
Covaxin	9	1				
Sputnik	1	0				
Not applicable	0	0				
3. DOSE OF VACCINE						
Before first dose	0	0	14.000	9.488	4	Significant
After first dose	36	0				
After Seconddose	10	0				
After booster	0	0				
Not applicable	0	14				