

## **A Study on Covid-19 Vaccine Hesitancy**

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### **ABSTRACT**

The frequency of vaccine rejection and hesitation, which is related to many factors, is increasing worldwide. The purpose of this study was to estimate the frequency of vaccine rejections for the COVID19 vaccine and to identify the underlying factors that led to the rejection or hesitation. This study is mainly based on the primary data. A well-structured questionnaire is issued to the respondents, to understand the people's opinion why they hesitating to get vaccine. questionnaire is administered to 203 respondents. Convenience sampling is used for the study. Data obtained from study is analysed using SPSS. Most of the respondents suggested free giveaways and by celebrity endorsements are the effective way to motivate and some respondents suggested by making compulsory for travel and work may increase the vaccination. That the rumours on side effects, non-availability of vaccine doses and adequate efficacy data is the main reason for hesitancy among respondents. Most of the respondents vacated with 1st dose what they felt are the non-availability 2nd vaccine dose is the one of the main factors of hesitancy.

**Keywords:** Hesitancy, reasons, motivation, vaccination, COVID-19

### **INTRODUCTION**

Coronavirus disease 2019 (COVID19) has become a global pandemic with 162 million confirmed cases and 3.4 million deaths worldwide. The pandemic in India has caused a major humanitarian crisis with an unprecedented number of hospitalizations and deaths. Mass

vaccination against COVID19 has become an important prevention strategy. The vaccination against COVID19 has been extended to people over 60 years of age and people with comorbidities aged 18 to 59 years. The vaccination registration process is done online through the government created COVID19 vaccine portal. Vaccine procrastination has been studied frequently among healthcare professionals, the COVID19 pandemic has boots the rapid development of vaccines with their exceptional coverage in the media and society. Recent studies highlight concerns about side effects, rapid vaccine development, and poor vaccine efficacy as some of the possible reasons people are reluctant to get vaccinated. In the Indian on both vaccines safety and efficacy data have been made public. For vaccines, safety and immunogenicity data are available but limited. Although it is provided for free, it is only available in limited quantities in the early stages. With the recent increase in COVID19 cases in India it is very important to study vaccine hesitancy in the population. This study aimed to assess the awareness and sources of information about vaccines, attitudes and factors that may determine the unwillingness to use COVID19 vaccines among people in India.

### **OBJECTIVES OF THE STUDY**

- To study the vaccination status of people
- To understand the reasons vaccine hesitancy
- To study the ways to motivate people for vaccination

### **RESEARCH METHODOLOGY**

This study is mainly based on the primary data. A well-structured questionnaire is issued to the respondents, to understand the people’s opinion why they hesitating to get vaccine. questionnaire is administered to 203 respondents. Convenience sampling is used for the study. Data obtained from study is analysed using SPSS.

### **REVIEW OF LITERATURE**

**G. Troiano and A. Nardi (2021):** Anti-vaccines in general, safety concerns/ thought that hastily produced vaccines are too dangerous, view vaccines as unnecessary due to the harmless nature of COVID19, generally lack confidence, beliefs, doubts about vaccine effectiveness, beliefs that have been vaccinated, doubts about the usefulness of vaccines.

**Shimaa M. Saied, Eman M. Saied and Ibrahim Ali Kabbash (2021).** The majority of participants are aware of the importance of the COVID19 vaccine, some are hesitant to be vaccinated and an equal proportion of respondents strongly accept or reject the vaccine. Most

respondents were concerned about the side effects and ineffectiveness of the vaccine. The most confirmed barriers to vaccination against COVID19 are the lack of data on vaccine side effects and insufficient information about the vaccine.

**World Health Organization Covid 2019 vaccine hesitancy among people (2021):** COVID19 vaccine to be launched in India on January 16, 2021, with priority given to healthcare workers. We sought to assess vaccine hesitancy and associated factors between undergraduates and the general population in India. 10.6% hesitated to vaccinate. Concerns about the safety and effectiveness of vaccines, the rush to test vaccines before they hit the market, and a lack of trust in government agencies have estimated a hesitant to get a vaccine. The perception of risk associated with purchasing a COVID19 vaccine has reduced unwillingness to get a COVID19 vaccine as well as a hesitant to participate in COVID19 vaccine trials.

## RESULTS AND DISCUSSIONS

The demographic profile of the sample is given below

| Variable                   | Category                                 | Percentage frequency |
|----------------------------|--|----------------------|
| Gender                     | Male                                     | 48.3                 |
|                            | Female                                   | 51.7                 |
| Age                        | Less than 20 years                       | 19.7                 |
|                            | 21-30 years                              | 30.5                 |
|                            | 31-40 years                              | 15.8                 |
|                            | 40-50 years                              | 7.9                  |
|                            | Above 50 years                           | 26.1                 |
| Educational qualifications | School level                             | 34.5                 |
|                            | Under Graduate (Currently Pursuing also) | 42.4                 |
|                            | Post Graduate (Currently Pursuing also)  | 16.7                 |
|                            | No Formal Education                      | 6.4                  |
| Occupation                 | Self-employed (Business)                 | 3.4                  |
|                            | Private                                  | 15.8                 |
|                            | Public                                   | 8.9                  |
|                            | Yet to be employed                       | 45.8                 |
|                            | Retired                                  | 26.1                 |

|                     |                        |      |
|---------------------|------------------------|------|
| Monthly Income      | Less than Rs.10,000    | 46.3 |
|                     | Rs. 10,001 - Rs.30,000 | 36.9 |
|                     | Rs.30,001 - Rs.50,000  | 15.8 |
|                     | Above Rs.50,000        | 1.0  |
| Marital status      | Married                | 60.6 |
|                     | Unmarried              | 39.4 |
| Are you vaccinated? | Yes with 1 dose        | 56.2 |
|                     | Yes with 2 doses       | 9.9  |
|                     | No                     | 34.0 |

In this survey, most of the female responds gave their opinion and the 21-30-year-olds answered mostly about being hesitant to get vaccines. The survey included 42.4 graduates who came up with their ideas to vaccinate everyone. To understand overall perception of hesitancy to take covid vaccine, various statements were included in the questionnaire and the responses to those statements are given below

**Respondents given their opinion for not taking the covid vaccine**

| Reasons for not taking vaccine                 | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly disagree |
|--|----------------|-------|----------------------------|----------|-------------------|
| Rumours on side effects                        | 15.3           | 32.5  | 43.3                       | 8.9      | 15.3              |
| Overconfident that the virus doesn't affect me | 2.0            | 5.4   | 30.5                       | 10.8     | 51.2              |
| Non availability of vaccine                    | 54.7           | 23.2  | 22.2                       | 0.0      | 0.0               |
| Not Interested                                 | 0.0            | 6.9   | 66.5                       | 20.2     | 6.4               |
| Non availability of adequate efficacy data     | 53.7           | 28.1  | 18.2                       | 0.0      | 0.0               |

It can be seen from the above table that, 54.7% of respondents have said that non-availability of vaccine is the major reason for not taken vaccine because there was lack of vaccine doses in distribution and 53.75% of respondents were saying that insufficient on the effectiveness of the

vaccine data is the reason for not taken the vaccine and 30.5% of respondents are aware of the serious of the virus and 66.5% of respondents are diplomats about vaccination and 32.5% of respondents agree that they believe the rumours about the side effects.

**Respondents are given their opinion to motivate the people to take the covid vaccine**

| <b>Ways to motivate people to take vaccine</b> | <b>Strongly Agree</b> | <b>Agree</b> | <b>Neither agree nor disagree</b> | <b>Disagree</b> | <b>Strongly disagree</b> |
|--|-----------------------|--------------|-----------------------------------|-----------------|--------------------------|
| Providing free gifts                           | 62.1                  | 29.1         | 8.9                               | 0.0             | 0.0                      |
| Endorsement by celebrity                       | 13.8                  | 66.0         | 20.2                              | 0.0             | 0.0                      |
| Releasing of adequate efficacy data            | 50.7                  | 23.2         | 26.1                              | 0.0             | 0.0                      |
| By making compulsory for traveling and jobs    | 6.4                   | 49.8         | 43.8                              | 0.0             | 0.0                      |

62.1% of the respondents suggested Free giveaways are the best way to motivate most respondents to get vaccinated, and 66.0% of the respondents suggested through celebrity endorsements, raising awareness about vaccinations is the second and most popular opinion. 50.7% of the respondents are expecting adequate efficacy data about the vaccine and 49.8% of the respondents agree by making vaccine compulsory for work and travel require everyone to be vaccinated.

**Chi square analysis was done to see the relationship between vaccination dosage and individual characteristics of respondents.**

| <b>Variable</b>            | <b>Individual characteristics</b> | <b>Chi square</b> | <b>P value</b> | <b>Result</b> |
|----------------------------|-----------------------------------|-------------------|----------------|---------------|
| <b>Are you vaccinated?</b> | Age                               | 57.231            | .000           | H0 Rejected   |
|                            | Educational qualifications        | 69.374            | .000           | H0 Rejected   |

It can be seen that dosage of vaccination varies with age and educational qualification. It was found from cross tab that people of age 20 to 40 years are vaccinated in higher numbers when compared to the age group of above 50 years. With respect to educational qualifications, it is

found that people having school level education haven't taken vaccination.

**Anova table analysis was done to see the results between age and educational qualifications respondents' reasons why they are hesitance and acceptance vaccinated.**

| Reasons for not taking vaccine                 | Independent variable       | F value | P value | Result      |
|--|----------------------------|---------|---------|-------------|
| Rumours on side effects                        | Age                        | 2.301   | .000    | H0 Rejected |
|  | Educational qualifications | 21.883  | .000    | H0 Rejected |
| Overconfident that the virus doesn't affect me | Age                        | 20.365  | .000    | H0 Rejected |
|  | Educational qualifications | 14.871  | .000    | H0 Rejected |
| Non availability of vaccine                    | Age                        | 6.224   | .000    | H0 Rejected |
|  | Educational qualifications | 20.752  | .000    | H0 Rejected |
| Not Interested                                 | Age                        | 14.429  | .000    | H0 Rejected |
|  | Educational qualifications | 58.137  | .000    | H0 Rejected |
| Non availability of adequate efficacy data     | Age                        | 10.801  | .000    | H0 Rejected |
|  | Educational qualifications | 7.257   | .000    | H0 Rejected |

**By age and education level, the reason people don't get the covid vaccine**

According to the 20-30 age group, respondents believe rumours about side effects. The 31-50 age group is neither believing nor neutral and the over 50 age group completely agrees with the rumours about side effects. It was found that educated respondents believe rumours about vaccine side effects and undergraduates agree with rumours about side effects and post graduates are neutral and respondents with no formal education are fully agree that they believe rumours.

- All age groups are aware of the seriousness of the covid virus and they are not overconfident about it and at all levels of education people are aware of it as well.
- According to the crosstab, most respondents are not vaccinated with 2<sup>nd</sup> dose because vaccines are not available both in terms of age and level of education.

- In terms of age and education level, most respondents are significant about vaccinated.
- All age group as well as education level of respondents who are not vaccinated due to insufficient data on vaccine effectiveness.

Anova square analysis was done to see the results between age and educational qualifications respondents' how to motivate them to take vaccine.

| <b>Ways to motivate people to take vaccine</b> | <b>Independent variable</b> | <b>F value</b> | <b>P value</b> | <b>Result</b> |
|--|-----------------------------|----------------|----------------|---------------|
| Providing free gifts                           | Age                         | 24.834         | .000           | H0 Rejected   |
|  | Educational qualifications  | 13.127         | .000           | H0 Rejected   |
| Endorsement by celebrity                       | Age                         | 5.819          | .000           | H0 Rejected   |
|  | Educational qualifications  | 1.576          | .000           | H0 Rejected   |
| Releasing of adequate efficacy data            | Age                         | 34.473         | .000           | H0 Rejected   |
|  | Educational qualifications  | 58.655         | .000           | H0 Rejected   |
| By making compulsory for traveling and jobs    | Age                         | 7.358          | .000           | H0 Rejected   |
|  | Educational qualifications  | 13.877         | .000           | H0 Rejected   |

**Depending on age and level of education, how to motivate people to get vaccinated.**

- In terms of age and education, respondents strongly agree that if free gifts provide a means, it will increase the level of vaccination.
- Graduate people mostly agree that by endorsement by celebrity may encourage the respondents to get vaccine and in 21-30 years age group of people are strongly agree by giving awareness by celebrity it motivates the people to be vaccinated.
- At the school and graduate levels, most people agree that the full efficacy of the vaccine data could get respondents vaccinated, and the 21-30 age group of people also suggests the same.
- The 20-30 years age group is okay with mandatory travel and employment and when it comes to education, school level and graduate students are okay with mandatory travel



and employment.

### **Description**

From this we can understand that everyone knows about vaccines and most of them have knowledge about viruses and most people think that by offering free gifts and full data one can increase vaccinations faster and most importantly, everyone needs vaccines and only very few people are made aware of the need to get vaccinated and, by making it compulsory, commuting is one of the most effective ways to get vaccinated for most people.

### **CONCLUSION**

Vaccines related to many factors and frequency of hesitation are increasing worldwide. The purpose of this study was to estimate the frequency of Covid19 Vaccine Rejection and identify fundamental factors leading to refusal or hesitation. Most respondents suggested free prices and celebrity guarantees are effective ways to be motivated and by made mandatory for work and travel may increase the vaccination. Rumours on side effects, vaccine non-availability and non-availability of adequate efficacy data are the main reason for hesitation between respondents. Most respondents were emptied at a first dose and they considered that a second dose of vaccine was not available as one of the main reasons for hesitation. Respondents were hesitant about the COVID-19 vaccines. The achievement of COVID-19 vaccination programmes in large part relies upon on the general public willingness to simply accept the vaccine. Although reluctance to get vaccinated has tended to decrease over time, health education programs designed to raise awareness about vaccines and build trust in government agencies would be very useful and make Covid19 vaccines should be essential for workers and travellers. Emphasis should be placed on promoting official sources of information to counter the apprehension created by the use of social media. Reasonable consent to the recording of personal information on the vaccine portal and ensuring that immunization sessions do not take place immediately before testing can further improve acceptance of newly released vaccines.

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