

# Attitude Towards Covid 19 Vaccination And Hesitancy Among General Public In Thiruvallur District - A Cross Sectional Study

Prem Karthick B<sup>1</sup>, Rajeswari MRC<sup>2</sup>, Dikshith Kumaran S<sup>3</sup>, Dharani R<sup>4</sup>, Nivethitha K<sup>5</sup>.

<sup>1</sup> Reader, Department of Oral Pathology, Priyadarshini Dental College & Hospital, Thiruvallur

<sup>2</sup> Head & Professor, Department of Oral Pathology, Priyadarshini Dental College & Hospital, Thiruvallur

<sup>3,4</sup> CRI, Priyadarshini Dental College & Hospital, Thiruvallur

<sup>5</sup> Senior Lecturer, Priyadarshini Dental College & Hospital, Thiruvallur

---

## Abstract

### AIM:

*This study to understand the attitudes towards COVID 19 vaccines, hesitancy to accept it and the source of encouragement they received.*

### MATERIALS AND METHODS:

*We conducted a community based cross sectional study in urban and rural communities among 368 persons who had been vaccinated and also those who have not been vaccinated. A semi-structured questionnaire was designed with a google survey tool.*

### RESULTS:

*More than 75% of the respondent have a positive attitude but the knowledge towards the side effects are less in the general population and the hesitancy of the vaccine is still persuading among the public.*

### CONCLUSION:

*There is a high level of COVID 19 vaccine hesitancy in Thiruvallur district. This hesitancy is driven by the general public's attitude towards the health system and the vaccine. Apart from these attitudes, social, side effects of the vaccine and accessibility factors also probably play a major role in vaccine hesitancy. This study provides a sound understanding of general public's attitudes towards the COVID 19 vaccines and their association with hesitancy and the findings will help design effective behaviour change communication campaigns.*

---

Date of Submission: 01-01-2022

Date of Acceptance: 12-01-2022

---

## I. Introduction

The SARS CoV2 pandemic has disrupted the life of people globally<sup>1</sup>. Vaccines are effective public health tools, which when given to sufficient numbers of people, can halt outbreaks of serious infections<sup>2</sup>. India began the COVID 19 vaccination campaign on 16 January 2021. Currently the main vaccines available in India are Oxford-Astra Zeneca vaccine locally referred to as Covishield, Bharat Biotech-ICMR indigenous vaccine named Covaxin and the Russian Sputnik V vaccine which is imported. India's UIP currently has 55,000 cold-chain staff, and 2.5 million health workers<sup>3</sup>. It will be the health workers, as first-line res-ponders who are getting the vaccination initially. According to government officials, the current healthcare infrastructure may not require additional manpower for administering the vaccine to the healthcare workers. For the second round of vaccination of the priority groups such as the elderly population, persons with comorbidities, pregnant women, and children, a much larger number of trained medical and paramedical staff experienced in vaccine administration will be in place to handle the workload. Understandably, these newly recruited staff will receive the vaccination before they become members of the workforce. Vaccination of people above 60 years and those above 45 with comorbidities have already started from March 1, 2021<sup>3</sup>. But there is hesitation towards vaccination with the COVID-19 vaccine with the general public remains a problem worldwide<sup>4</sup>. Lack of clinical trials for the vaccine, fear of vaccine side effects, and rumors of the presence of active viruses in vaccines are some leading obstacles that obstruct the success of the COVID-19 vaccine campaign<sup>5</sup>. In this

study we analyse the attitude of general public towards COVID-19 vaccine after vaccination because the general public believe the family members, relatives or friends the most compare to the government awareness.

## II. Materials And Methods:

We conducted a community based cross sectional study in urban and rural communities among 368 persons who had been vaccinated and not yet vaccinated, selected through multistage random sampling. We administered the questionnaire face to face to all the participants and entered their responses into a data collection software application (Google Forms) in our respective mobile phones, and the data collection done by one of the author to reduce the bias. We adapted the questions to the local context and to collect information about attitudes towards COVID 19 vaccination. We translated this instrument to Tamil, the local language. The questionnaire consists of totally 15 questions, the first 12 questions shows the attitude of the general public and the remaining 3 questions shows the reason for the hesitancy of the general public not yet vaccinated and the fear to social gatherings. Only above the age of 18 years are participated in the study, because its is the minimum age allowed to vaccine and They were also assured regarding the maintenance of confidentiality and anonymity of the information provided by them during the study. The name of the participants are not recorded due to reduce the cohort bias and the participant may answer without any hesitation.

### SAMPLING METHOD:

Randomized sampling method is done, Thiruvallur district is divided into five zones, out of which we selected a large zone (20% of the zones), in this zone we randomly selected 3 wards (10% of the wards), from each of these three wards we sampled 120 households systematic random sampling and randomly sampled an adult member from each household and interviewed them.

### STASTICAL ANALYSIS

Descriptive statistics were used to summarize the responses to the questionnaire, with the results being presented as frequencies and percentages. The data analysis was done using SPSS software 19.0 version. Chi-square tests were used to compare gender wise results and the level of significance was set at  $P \leq 0.05$ .

## III. Results:

**Table 1** shows the gender frequency and their percentage, the mean is  $1.33 \pm 0.47$

Male	243	67%
Female	120	33%

**Table 2** shows the responses of attitude towards covid 19 vaccine after vaccination among participants

Questions	options	responses	percentage	P value
ARE YOU VACCINATED FOR COVID-19?	Yes	314	86	<0.01
	NO	50	14	
IF YES,WHICH TYPE OF COVID-19 VACCINE HAVE YOU TAKEN?	Covid shield	289	91	0.01
	Covaxin	30	9	
	Sputnik-v	0	0	
IF YES,HOW MANY DOSES HAVE YOU TAKEN?	1 <sup>ST</sup> dose	73	24	0.02
	2 <sup>ND</sup> dose	225	76	
IF YES,WHAT IS YOUR REASON FOR TAKING COVID-19 VACCINE?	Willingly	262	88	<0.01
	Compulsion	36	12	
DID YOU HAVE ANY SIDE EFFECTS?	Yes	223	75	<0.01*
	No	75	25	
IF YES, SIDE EFFECTS WERE PRESENT FOR HOW MANY DAYS?	1-3 days	242	89	0.13
	3-5 days	20	7	
	More than a week	9	3	
WHAT ARE THE SIDE EFFECTS YOU HAD?	Fever	40	15	<0.01*
	Cold/Cough	13	5	
	Head /Body ache	57	21	
	All the above	164	60	

HAVE YOU HEARD ABOUT BOOSTER DOSE?	Yes	103	32	0.23
	No	216	68	
DID EVERYONE IN YOUR HOUSEHOLD GET VACCINATED?	Yes	258	80	<0.01*
	No	65	20	
ARE YOU FEARED OF GETTING AFFECTED BY COVID 19 EVEN AFTER VACCINATION?	Yes	219	69	<0.01*
	No	98	31	
DO YOU FOLLOW ALL THE RULES GIVEN AFTER GETTING COVID 19 VACCINATION?	Yes	289	90	<0.01*
	no	33	10	
DO YOU THINK EVEN IF YOU ARE VACCINATED OTHER PREVENTIVE MEASURES ARE VERY IMPORTANT?	Yes	309	97	<0.01*
	No	11	3	

Table 3 shows hesitancy of non vaccinated among general public

WHAT IS THE REASON FOR NOT TAKING COVID 19 VACCINATION?	fear of injection	15	10	0.59
	there is no confidence in vaccine	62	42	
	Decreased health	22	14	
	Affected by covid infection	40	26	
	other	16	10	
ARE YOU AFRAID OF ATTENDING SOCIAL OCCASIONS SINCE YOU HAVE NOT TAKEN COVID- 19 VACCINATION?	Yes	122	68	<0.01*
	No	57	32	
DO YOU THINK THERE IS NO DIFFERENCE IN RISK OF COVID INFECTION BETWEEN VACCINATED AND NON VACCINATED ?	Yes	73	23	<0.01*
	No	250	77	

#### IV. Results:

Table 1 shows the gender comparison of males responses of 243 (67%) and female responses of 120 (33%), with mean and Standard deviation of 1.33±0.47.

Table 2 shows the attitude towards covid 19 vaccine and hesitancy of non vaccinated among general public which is significant with P value <0.05, majority of the participants are vaccinated 314 (86%) for COVID-19, the covid shield 289(91%) is the most preferred vaccine among them when compared to Covaxin 30(9%). Most of the participants were vaccinated with both the doses 225(76%), had side effects for the vaccine 223(75%) for 1-3 days 89%, for 3-5 days 20%, more than a week 3%. thus the results shows a positive attitude towards the covid-19 vaccines and the other findings are not significant shows the negative attitude towards the vaccine, The side effects categorized as fever only 40(15%), cold/cough only 13(5%), head/ body ache 57(21%) and all the above 164(60%). most of them are feared of getting covid 19 even after vaccination 219(69%). 10% of general public avoid rules and protective measure after got vaccinated, and 80% of the house hold are vaccinated with covid 19 vaccines,

Table 3 shows hesitancy of non vaccinated among general public, scared of injection 10%, decreased health 14%, affected by covid infection 26%, but most of them responded that there is no confidence in vaccines 42% and other reasons (death after vaccine, scared of side effects, pregnancy) 10%. 73(23%) of general public thought that there is no difference in risk of covid infection between vaccinated and non vaccinated people, even though the non vaccinated people are afraid of attending social occasions 122(68%).

#### V. Discussion:

The study result showed that the attitude of covid-19 vaccines are positive among general public, Our study shows more than half of the study participants (63%) were willing to take the COVID-19 vaccines. In comparison, a survey from China reveals only about 28.7% reported a definite intention (Lin et al., 2020). A study showed a higher COVID-19 vaccine intention in Malaysia (94.3%) (Wong et al., 2020) of which 48.2% reported a definite intention, Indonesia (67%) (Harapan et al., 2020) and Japan (67.1%) (Machida et al., 2021).

Also, an online survey also found a higher vaccine intention in France (74%) (COCONEL Group, 2020), United States (74.1%) (Hogan et al., 2020) and Europe (73%) (Neumann-Böhme et al., 2020)<sup>6</sup>. Public knowledge includes preventive considerations, and vaccine information are important to promote vaccine acceptance and decrease the vaccine hesitancy among the population to eradicate the coronavirus infection<sup>7</sup>, it make the result of the study made to a higher acceptance rate but hesitation to the vaccine 42% is similar when compare to other studies (Shima M.Sayed et al ., 2021)<sup>8</sup>. As public trust in vaccination is relatively low (56%), that it cause decrease in health and no confidence in the vaccine. The COVID-19 vaccination program can succeed if there is a belief that the available vaccines are safe and effective. India is in a privileged position in producing affordable medical, surgical, and essential generic medicines for the world. It is also well-known that India is the world's largest manufacturer and worldwide distributor of vaccines. The current COVID-19 pandemic has triggered rapid development, emergency use authorization, and unprecedented collaborative efforts from various stakeholders. Although vaccination might be a cost-effective strategy for survival and a better quality of life for the people as well as for the revival of the economy of India, questions remain. For example, vaccination might not work for some individuals in the general public, the knowledge of the vaccine, and how it works also should be thought to the general public. The present study, is the first of its kind to report the 73(23%) of the general public thought that there is no difference in risk of covid infection between vaccinated and non vaccinated.

## VI. Conclusion

The participants in the study had satisfactory knowledge regarding corona virus and its vaccine but there is a moderate level of COVID 19 vaccine hesitancy in Thiruvallur district. This hesitancy is driven by the general public's attitude towards the health system and the vaccine. Apart from these attitudes, social, side effects of the vaccine and accessibility factors also probably play a major role in vaccine hesitancy. This study provides a sound understanding of general public's attitudes towards the COVID 19 vaccines and their association with hesitancy and the findings will help design effective behaviour change communication campaigns, continuous training and education are needed to improve public vaccine acceptance and reduce its hesitancy.

## References

- [1]. Acuti Martellucci C, Flacco ME, Cappadona R, Bravi F, Mantovani L, Manzoli L. SARS-CoV-2 pandemic: an overview. *Adv Biol Regul.* 2020;77:100736.
- [2]. Abeyasinghe S. 'Because we all know that vaccines are an extremely effective public health tool': path dependency, H1N1 and the World Health Organisation. *Policy Stud.* 2012;33(5):381-97.
- [3]. Kumar VM, Pandi-Perumal SR, Trakht I, Thyagarajan SP. Strategy for COVID-19 vaccination in India: the country with the second highest population and number of cases. *NPJ Vaccines.* 2021;6(1):1-7
- [4]. Danabal KG, Magesh SS, Saravanan S, Gopichandran V. Attitude towards COVID 19 vaccines and vaccine hesitancy in urban and rural communities in Tamil Nadu, India—a community based survey. *BMC Health Services Research.* 2021 Dec;21(1):1-0.
- [5]. Elgendy MO, El-Gendy AO, Abdelrahim ME. Public awareness in Egypt about COVID-19 spread in the early phase of the pandemic. *Patient education and counseling.* 2020 Dec 1;103(12):2598-601
- [6]. Acharya SR, Moon DH, Shin YC. Assessing Attitude Toward COVID-19 Vaccination in South Korea. *Frontiers in Psychology.* 2021;12.
- [7]. Elbur A, Alharthi A, Aljuaid A, Almalki NH. Knowledge of Middle East respiratory syndrome coronavirus (MERS-CoV) and its management: a survey among Saudi people in Taif; Kingdom of Saudi Arabia. *IOSR J Pharm.* 2016; 6(8): 33- 39.
- [8]. Saied SM, Saied EM, Kabbash IA, Abdo S. Vaccine hesitancy: beliefs and barriers associated with COVID-19 vaccination among Egyptian medical students. *J Med Virol.* 2021; 93(7): 4280- 4291.