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### RESEARCH ARTICLE

#### LEVEL OF SATISFACTION WITH COVID-19 VACCINE AFTER GETTING JABS AMONG THE GENERAL POPULATION IN GURGAON, HARYANA

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#### Abstract

Coronavirus disease (COVID-19) is an infectious disease caused by Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). To bring this pandemic to an end, only Vaccines are effective interventions that can reduce the high burden of this disease globally. The purpose of the study was to assess the level of satisfaction among the general population after getting the jab of COVID-19 vaccine and regarding the vaccination services. A quantitative approach, cross-sectional e-survey was conducted on 332 general population through snowball sampling among the general population of Gurgaon aged 18 years and above from 25<sup>th</sup> May 2021 to 30<sup>th</sup> July 2021. The result showed that 70.8% of the general population were dissatisfied after getting the jab of COVID-19 vaccine. The results indicate a high rate of dissatisfaction after getting the jab of the COVID-19 vaccine among the general population. This result may vary with large sample size.

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#### Introduction:-

In December 2019, the first coronavirus was identified in Wuhan city, China.<sup>1</sup> Coronavirus which caused severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)<sup>2</sup> The COVID-19 pandemic, also known as the coronavirus pandemic, is an ongoing global pandemic of coronavirus disease 2019 (COVID-19). The World Health Organization declared a Public Health Emergency of International Concern regarding COVID-19 on 30 January 2020, and later declared a pandemic on 11 March 2020.<sup>3</sup>

The severity of COVID-19 symptoms is highly variable, ranging from unnoticeable to life-threatening. Severe illness is more likely in elderly COVID-19 patients, as well as those who have underlying medical conditions. COVID-19 transmits when people breathe in air contaminated by droplets and small airborne particles.<sup>4</sup>

As of June 11, 2021, the outbreak of the coronavirus disease (COVID-19) had been confirmed in over 210 countries and territories. The virus had infected almost 176 million people worldwide, and the number of deaths had reached almost 3.8 million. The most severely affected countries include the U.S., India, and Brazil.

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In India, from 3 January 2020 to 7 July 2021, there have been 30,203,774 confirmed cases of COVID-19 with 404,240 deaths, reported to World Health Organization. As of 7 June 2021, a total of 23,88,40,635 vaccine doses have been administered.<sup>5</sup>

To bring this pandemic to an end, a large share of the world needs to be immune to this deadly virus. The safest way to achieve this is with a vaccine. Vaccines are a technology that humanity has often relied on in the past to bring down the death toll of infectious diseases.

Within less than 12 months after the beginning of the COVID-19 pandemic, several research teams rose to the challenge and developed vaccines that protect from Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19. These are RNA vaccines (from Pfizer-BioNTech and Moderna), conventional inactivated vaccines (from Sinopharm, Bharat Biotech, and Sinovac), and viral vector vaccines (from Gamaleya Research Institute and Oxford-AstraZeneca), which are being used in recent vaccination programs of many countries, including the United States, the United Kingdom, Europe, China, Russia, and India<sup>6</sup>. The COVID-19 vaccines are widely credited for their role in reducing the spread, severity, and death caused by COVID-19.<sup>7</sup>

Vaccination is the administration of a vaccine to help the body produce immunity against a disease.<sup>8</sup> It is the most cost-effective mechanism for disease prevention that allows people to better protect themselves from specific bacteria and viruses.<sup>9</sup> Vaccination against COVID-19 is voluntary in most countries. However in India, it is advisable to receive the complete schedule of COVID 19 vaccine for protecting one self against the disease and limit the spread of this disease to the close contacts. Based on potential availability of vaccines, the Govt. of India launched the nationwide vaccination drive on January 16 2021, with health care and frontline worker of India's COVID 19 battle getting their first vaccine. The country began the second phase of vaccination drive from March 01, 2021 in which everyone above 60 years of age and those person under 50 yrs of age with comorbid conditions were received the vaccine.<sup>10</sup>

In India, vaccination is voluntary and after that also more than 52.99 lakh vaccine doses were administered in India on July 30, the Union Health Ministry's latest provisional report suggested. On the 196th day of the COVID-19 vaccination drive, 35.40 lakh beneficiaries received their first shot and 17.58 lakh people were given their second dose.<sup>11</sup>

As vaccination drive started in January 2021, after that at least 97% of the 500,000 healthcare workers surveyed post-Covid-19 vaccination in the country have expressed satisfaction regarding the process, on 4<sup>th</sup> Feb. 2021. But at least 11% of them also said that they were not properly informed about the adverse event following immunisation. About 97% of those surveyed said that social distancing was maintained at the vaccination site. Around 98% said that they were informed about the vaccination process and given the vaccine properly. Close to 97% said that they were asked to wait for 30 minutes post-vaccination for monitoring.<sup>12</sup>

Satisfaction, like many other psychological concepts, is easy to understand but hard to define. A simple and practical definition of satisfaction would be the degree to which desired goals have been achieved.<sup>13</sup> Satisfied patient is more likely to develop a deeper and long-lasting relationship with their medical provider, leading to improved compliance, continuity of care, and ultimately better health care outcomes.<sup>14</sup>

Different reports says that satisfaction plays a key role in improving the quality of vaccine and ultimately will enhance its coverage. Facility opening time, vaccination service waiting time, and service provider's approach and setup of service delivery environment were some of the key factors that determined client satisfaction towards vaccination service.<sup>15,16</sup> Thus, evaluating the clients' satisfaction towards the vaccination service and health related behaviour changes after vaccination is clinically relevant as satisfied clients are more likely to comply with. It will also help to pass on encouraging messages to others, take an active role in their care, continue using medical care services, and recommend center's services to others. So it is therefore important to understand the level of satisfaction among local populations after the Covid 19 vaccination.

### **Objective:-**

To assess the level of satisfaction among the general population after getting the jab of covid -19 vaccine and regarding the vaccination services.

### Material And Methods:-

This was a quantitative approach, cross sectional e- survey was conducted from 25<sup>th</sup> May 2021 to 30<sup>th</sup> July 2021 in Gurgaon, India. A snow ball sampling technique was used to include participants. An online self-reporting structured questionnaire was developed by using google form and a consent to participate in study was affixed to it. The link of google form questionnaire was generated and sent through emails, WhatsApp and other social media to the contacts of the researchers/investigators. The participants got auto directed to information about study and informed consent too on receiving and clicking the link of google form. Once they accepted and gave consent to be part of this survey, they filled up the asked socio-demographic details and then consecutively, a set of 26 Satisfaction related questionnaires appeared. The questionnaire was administered to 332 participants aged 18 years and above, has taken covid vaccine and able to understand English and willing to give informed consent were included.

Each tool used to measure satisfaction is rated in a 3-point Likert scale response (i.e., 1 for dissatisfied, 2 for neutral, 3 for satisfied). First, the overall general population satisfaction level was computed by adding the mean score of 26 satisfaction-measuring items. Then, the threshold score for satisfaction was determined using the demarcation threshold formula, which is  $[(\text{Total highest score} - \text{total lowest score})/2] + \text{Total Lowest score}$ . Finally, general population' overall satisfaction was categorized/dichotomized into "Satisfied" and "Dissatisfied".<sup>17</sup>

Based on this, general population who scored above 63 on the satisfaction measurement tool were considered "satisfied" whereas, who scored  $\leq 63$  on satisfaction measurement tool were taken as "dissatisfied" towards health related behavior after COVID 19 Vaccination.

### Result:-

Result (Table 1) showed that a total of 332 respondents were involved in the study giving a response rate of 100%. The highest proportion of respondents 111 (33.4 %) were under the age group of 30 – 39 years, 251 (75.6%) were female and 248 (74.7%) were married. Over 50% of the respondents were Hindu by their religion, and about half of the respondents (55.1%) attend graduate education. Regarding respondents' occupational status, two-thirds 129 (38.9%) of respondents were doing private job followed by 25 (7.5%) were enrolled in others ( housewife and students ) and 226 (68.1%) had nuclear family and over 160 (48.2%) were residing in urban area. Majority of them 220 (66.3%) were not suffering from any disease but 122(36.7%) were get infected with COVID 19 virus after 1<sup>st</sup> dose of vaccine. More than half of the respondents 207 (62.3%) have taken the 1<sup>st</sup> dose of COVID vaccine and majority of them 230 ( 69.3%) have taken Covishield vaccine

Result (Table 2) also showed that General population satisfaction about the behaviour and competence of Health care worker was 55.4 %, satisfaction about information received about number of doses/schedule of vaccine was 69%, satisfaction about the messages/information about time of next visit for vaccination was 67.5%, satisfaction about strictly follow the preventive measures & hygiene rules after vaccination was 67.5%, satisfaction about having no side effects, mild side effect and severe side effect after COVID 19 vaccination was 49.4%, 52.7% and 66%, satisfaction about taking nutritious diet to minimize side effects after vaccination was 62% , satisfaction about able to do regular exercise and physical activity after vaccination was 70.8%

Majority of the general population dissatisfied about easy accessibility of vaccine centre was 50.3%, dissatisfied about the waiting time to get about the vaccine was 65.7%, dissatisfied about the availability of vaccine at centre was 62.7%, dissatisfied about the social distancing maintained at the center was 39.2 %, dissatisfied about the waiting time after vaccination for monitoring of adverse effect was 52.4%, dissatisfied about knowledge provided about the type of vaccine they have taken was 45.5%, dissatisfied about the information provided by Health care worker about vaccines & their benefits at the site of the vaccination was 81.3%, dissatisfied about the information provided by Health care worker about occurrence of adverse effect following vaccination & their management was 81.6%, dissatisfied about no need to follow masking, sanitization and social distancing protocols was 56.6%, dissatisfied about the protection against COVID 19 virus after vaccination was 58.7%, dissatisfied about lower risk of infection and complication after getting infected was 40.4%, dissatisfied about after vaccination able to avoid strong emotions, stress and depressive situation easily was 76.2%, dissatisfied about after vaccination they were able to meet with their family, friends and colleagues was 51.8%, dissatisfied about resuming their normal life was 47.9%, dissatisfied about resuming work from their work place was 65.1%, dissatisfied about the statement that there is no harm in

taking COVID 19 vaccination was 51.5% and also dissatisfied about travel to their desired places without worrying about COVID 19 infection was 63.3%.

Result (Table 3) revealed the statistics of overall satisfaction score and their percentage of general population regarding satisfaction with Covid-19 vaccine after getting jabs. It shows that the possible score was 26 to 78 which could be obtained by general population. Out of the full score, the mean score obtained by the general population was 53.9 (69.1%) with minimum satisfaction score of 30 (38.5%) and maximum score of 72 (92.3%).

Result (Fig 1) revealed the overall level of satisfaction of of general population regarding Covid-19 vaccine after getting jabs. Majority of the general population (70.8%) were dissatisfied after getting jab of COVID 19 vaccine and 29.25 were satisfied with the same.

### Discussion:-

This survey study assessed the satisfaction regarding Covid -19 vaccination after getting jab among general population of Gurugram, Haryana. The study found that majority of the general population 70.8% were dissatisfied with COVID 19 Vaccination after getting jab. This study was not supported by the result of the Union Health Ministry. The government is taking feedback from those vaccinated since January 17. Over 97 per cent of 7.75 lakh people surveyed by asking 4 questions in a personalised message after a day receiving anti-coronavirus vaccine shots, have expressed satisfaction with the over all process of immunisation process. That study also showed that 97.31 confirmed that proper social distancing was maintained at immunisation sites. 98.37 per cent confirmed that they were informed about the process of vaccination and that it was given properly, 88.76 per cent said they were informed about adverse event following immunisation and 97.19 per cent confirmed that they were asked to wait for 30 minutes for monitoring after being vaccinated.<sup>18</sup>

### Conclusion:-

The results herein offer some suggestions to governments that during vaccination make it compulsory to maintain the social distancing at vaccine centre, adequate monitoring to stop the spreading of misinformation, and further research work to understand the factors which will enhance the satisfaction level of the general population after the jab of COVID-19 vaccine.

### Tables and figures

**Table 1:-** Frequency and percentage distribution of general population according to their demographic profile N=332.

S.No.	Characteristics	Categories	Frequency (F)	Percentage (%)
1.	Age	a. 18 yrs – 29 yrs	85	25.6
		b. 30 yrs – 39 yrs	111	33.4
		c. 40 yrs – 49 yrs	110	33.1
		d. 50 yrs – 59 yrs	9	2.7
		e. Above 60 yrs	17	5.2
2.	Gender	a. Male	81	24.4
		b. Female	251	75.6
3	Marital Status	a. Married	84	25.3
		b. Unmarried	248	74.7
		c. Widow	00	00
4.	Religion	a. Hindu	223	67.2
		b. Muslim	90	27.1
		c. Christian	09	2.7
		d. Sikh	10	3
4	Education	a. Primary Education	5	1.5
		b. Secondary Education	59	17.8
		c. Graduate	183	55.1

		d. Post Graduate	85	25.6
5	Occupation	a. Unemployed b. Self Employed c. Govt. job d. Private job e. Retired f. Other (Please Specify)	53 80 41 129 4 25	16 24.1 12.3 38.9 1.2 7.5
6	Type of Family	a. Nuclear b. Joint	226 106	68.1 31.9
7	Residence	a. Urban b. Semi-urban c. Rural	160 133 39	48.2 40.1 11.7
8	Are you suffering from any diseases?	a. Yes (If Yes Please specify) b. No	112 220	33.7 66.3
9	Did you get infected with COVID 19 virus?	a. Yes (before vaccination) b. Yes (after 1st Dose) c. Yes (after 2nd Dose) d. No	17 122 72 121	5.2 36.7 21.7 36.4
10	Have you taken the COVID vaccine?	a. Yes (1st Dose) b. Yes (2nd Dose) c. No	207 123 2	62.3 37 0.7
11	What is the source of information regarding COVID 19 vaccine?	a. Social media / TV / radio / Newspaper b. Scientific sources c. Friends / colleagues/ family d. Health care provider	88 78 129 37	26.5 23.5 38.9 11.1
12	Which vaccine you have taken?	a. Covishield b. Covaxin c. Sputnik V	230 102 0	69.3 30.7 0

**Table 2:-** Satisfaction regarding vaccination among general population after COVID 19 vaccination N=332.

S. no.	Statements	Dissatisfied F (%)	Neutral F (%)	Satisfied F (%)
1	How satisfied are you with easy accessibility of vaccine center?	167 (50.3)	16 (4.8)	149 (44.9)
2	How satisfied are you with the waiting time to get about the vaccine?	218 (65.7)	28 (8.4)	86 (25.9)
3	How satisfied are you with the availability of vaccine at center?	208 (62.7)	15 (4.5)	109 (32.8)
4	How satisfied are you with the behavior and competence of Health care worker?	63 (19)	85 (25.6)	184 (55.4)
5	How satisfied are you with the social distancing maintained at the center?	130 (39.2)	81 (24.4)	121 (36.4)
6	How satisfied are you with the waiting time you spend after vaccination for monitoring of adverse effect?	174 (52.4)	72 (21.7)	86 (25.9)
7	How satisfied are you with the knowledge provided about the type of vaccine you have taken by health care worker?	151 (45.5)	44 (13.3)	137 (41.3)
8	How satisfied are you with the information provided by Health care worker about vaccines & their benefits at the site of the vaccination?	270 (81.3)	34 (10.2)	28 (8.4)

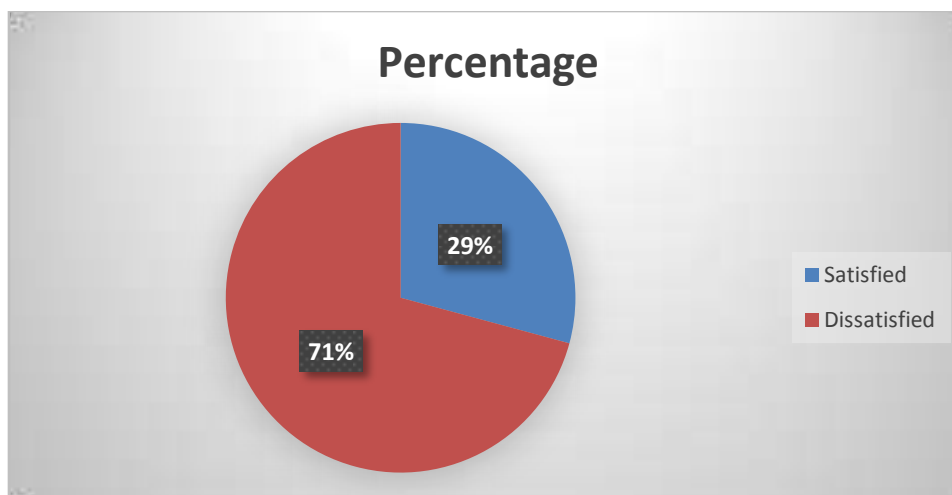
9	How satisfied are you with the information received about number of doses/schedule of vaccine?	45 (13.6)	58 (17.5)	229 (69)
10	How satisfied are you with the messages/information about time & place of next visit for vaccination?	40 (12)	68 (20.5)	224 (67.5)
11	How satisfied are you with the information provided by Health care worker about occurrence of adverse effect following vaccination & their management?	271 (81.6)	32 (19.6)	29 (8.7)
12	How satisfied are you with the information about strictly follow the preventive measures & hygiene rules after vaccination?	57 (17.2)	51 (15.4)	224 (67.5)
How satisfied are you with the statement related to healthrelated behavior after COVID 19 vaccination				
13	I have no side effects after COVID 19 vaccination	84 (25.3)	84 (25.3)	164 (49.4)
14	I have mild side effects (fever, pain)	120 (36.1)	37 (11.1)	175 (52.7)
15	I have severe side effect	46 (13.9)	67 (20.2)	219 (66)
16	I have taken / am taking nutritious diet to minimize side effects	63 (19)	63 (19)	206 (62)
17	I am able to do my regular exercise and physical activity	43 (13)	54 (16.3)	235 (70.8)
18	There is no need to follow masking, sanitization and social distancing protocols	188 (56.6)	68 (20.5)	76 (22.9)
19	I have no protection against COVID 19 virus	195 (58.7)	50 (15.1)	87 (26.2)
20	If I get infected with COVID 19, then there is a lower risk of infection and complication	134 (40.4)	104 (31.3)	94 (28.3)
21	I have been able to avoid strong emotions, stress and depressive situation easily	253 (76.2)	46 (13.9)	33 (9.9)
22	I feel less worried about meeting with my family, friends and colleagues	172 (51.8)	53 (16)	107 (32.2)
23	I will be able to resume my normal life i.e. before pandemic	159 (47.9)	73 (22)	100 (30.1)
24	I have no fear of resuming work from my workplace	216 (65.1)	61 (18.4)	55 (16.6)
25	I feel there is no harm in taking COVID 19 vaccination	171 (51.5)	46 (13.9)	115 (34.6)
26	I can travel to my desired places without worrying about COVID 19 infection	210 (63.3)	54 (16.3)	68 (20.5)

**Table 3:-** Overall scoring on satisfaction of general population after COVID 19 vaccination N=332.

S.no.	Variable	Possible score	Mean	SD	Minimum	Maximum
1	Overall satisfaction score	26-78	53.9	10.3	30	72
2	Percentage of scoring of satisfaction	20-100%	69.1%	13.3%	38.5%	92.3%

**Table 4:-** Overall level of satisfaction of general population after COVID 19 vaccination N=332.

S.no.	Level of perception	Frequency	Percentage
1	Satisfied	97	29.2%
2	Dissatisfied	235	70.8%



**Fig 1:-** Percentage of satisfaction of general population after COVID 19 vaccination.

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