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A cross sectional survey to assess the attitude and willingness to receive COVID-19 vaccination among the people of community at surendranagar district, Gujarat

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Abstract
Background and Objectives: COVID-19 is an infectious disease caused by a newly discovered corona virus. Vaccinations have been considered the best method to control rapidly spreading infectious diseases. To assess the attitude and willingness to receive COVID-19 vaccination among people of community of surendranagar, Gujarat.
Method: A cross sectional survey was conducted involving the 500 people of community at Surendranagar district. Likert scale questionnaire were used to assess attitude and willingness to receive COVID-19 vaccination.
Result: The result shows 0.80% people having poor scoring, 35.60% people having average score were the 57.60% people having well and 6.00% people shows excellent scoring to receive COVID-19 vaccination.
Interpretation and Conclusion: We conclude that the younger people of community are more interested to receive COVID-19 vaccination than the other age group. Education is the most affective variable towards the community people.

Keywords: COVID-19, vaccine, assess, attitude, willingness, community

1. Introduction
The World Health Organisation (WHO) has declared the coronavirus disease 2019 (COVID-19) a pandemic. Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the causative virus for the COVID-19 disease 2019 (COVID-19) ongoing pandemic. COVID-19 was the underlying or a contributing cause of 377,883 deaths (91.5 deaths per 100,000). As of 22 December, the COVID-19 pandemic has resulted in more than 76.2 M cases and more than 1.6 M deaths worldwide.

1.1 Need of the study
The government of India recently planned to start the process of the mass vaccination program to end the COVID-19 crises. However, the process of vaccination was not made mandatory, and there are a lot of aspects that arise skepticism in the minds of common people regarding COVID-19 vaccines. Currently, only around 12.5% of the Indian population has been fully vaccinated by June 2. The Government of India is gearing up for the vaccination drive, more than 50% of India's population is expressing caution towards taking the vaccine.

2. Materials and Methods
The quantitative research approach was used in this survey. The cross sectional survey was used to assess the attitude and willingness to receive COVID-19 vaccination among the 500 selected people of community at surendranagar district, Gujarat. We have used 10 demographic variables and 20 Likert scale questionnaire including 10 attitude and 10 willingness questionnaire. Data was analyzed by using mean, medium, mode and chi-square test for association and Karl Pearsons coefficient correlation was used for correlation.

3. Result and Discussion

3.1 Frequency

The study Received 500 samples which were complete and included in the final analysis. The most foundable age of participants was 18-27 years old and more than half of them (64.6%) were males. More than half of the respondents (65.2%) were married. About 50.4% had an school education. Besides, 38.2% of the participants were having sallary between 5000 to 10000 and also half of population (50.6%) were located at city in a joint family (64.2%) who worked small jobs (37.4%). Also the most samples (88.8%) were Hindus and used to with Gujarati (98.4%) language.

3.2 Score

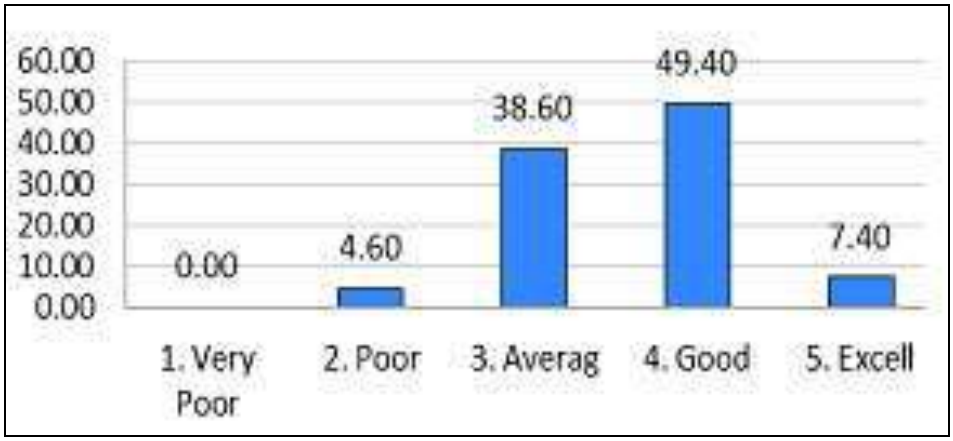

Fig 1: Attitude (%)

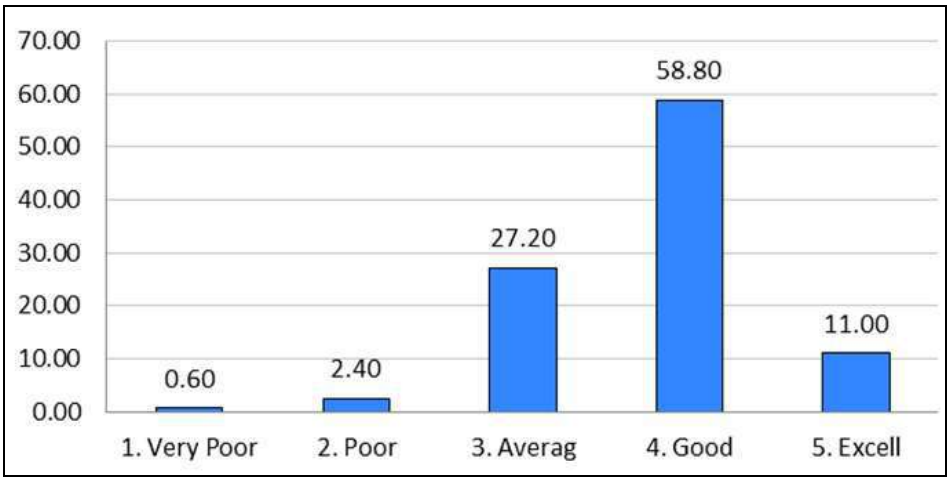

Fig 2: Willingness (%)

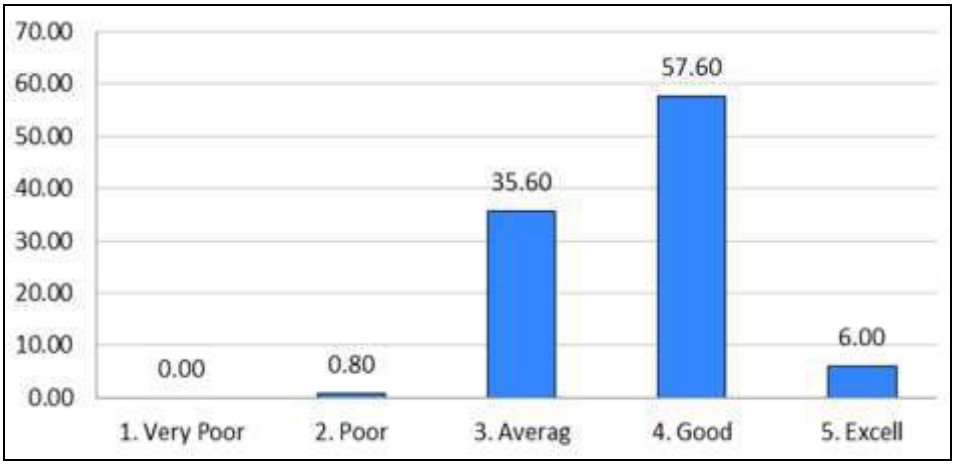

Fig 3: Total Score (%)

The attitude score shows that 4.60%people shows the poor scoring, 38.60% people shows average score where the 49.40% people having good and 7.40% people shows excellent scoring to receive COVID-19 vaccination. The willingness score shows that 0.60%of people having very poor score, 2.40% people shows the poor scoring, 27.20%

people shows average score where the 58.80% people having good and 11.00% people shows excellent scoring to receive COVID-19 vaccination. Total score is 0.80%people shows the poor scoring, 35.60% people shows average score where the 57.60% people having good and 6.00% people shows excellent scoring to receive COVID-19 vaccination.

3.3 Correlation

The attitude and willingness having the Pearson correlations and the p-value related to receive COVID-19 vaccination where the total sample collection data are 500 and the correlation is significant at 0.01 level.

Table 1: Correlations

		Attitude score	Willingness score
Attitude score	Pearson Correlation	1	.250**
	p-Value		.000
	N	500	500
Willingness score	Pearson Correlation	.250**	1
	p-Value	.000	
	N	500	500
**. Correlation is significant at the 0.01 level (2-tailed).			

3.4 Attitude and willingness total association

Table 2: Age * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Age	18-27	1	70	134	10	215
	28-37	1	52	66	7	126
	38-47	1	31	59	7	98
	48 and More	1	25	29	6	61
Total		4	178	288	30	500

Table 3: Chi-Square Tests

	Value	df	p-Value
Pearson Chi-Square	8.544[a]	9	.480
N of Valid Cases	500		
a. 5 cells (31.3%) have expected count less than 5. The minimum expected count is .49.			

Table 4: Gender * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Gender	Male	4	131	169	19	323
	Female	0	47	119	11	177
Total		4	178	288	30	500

Table 5: Chi-Square Tests

	Value	df	p-Value
Pearson Chi-Square	12.924[a]	3	.005
N of Valid Cases	500		
a. 2 cells (25.0%) have expected count less than 5. The minimum expected count is 1.42.			

Table 6: Marital status * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Marital status	Married	4	124	176	22	326
	Unmarried	0	48	107	7	162
	Divorced	0	6	5	1	12
Total		4	178	288	30	500

Table 7: Chi-Square Tests

	Value	Df	p-Value
Pearson Chi-Square	9.449[a]	6	.150
Likelihood Ratio	10.785	6	.095
N of Valid Cases	500		
a. 5 cells (41.7%) have expected count less than 5. The minimum expected count is .10.			

Table 8: Education * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Education	Illiterate	3	24	24	5	56
	School going	1	96	139	16	252
	College going	0	55	113	9	177
	Higher education & other	0	3	12	0	15
Total		4	178	288	30	500

Table 9: Chi-Square Tests

	Value	df	p-Value
Pearson Chi-Square	26.775[a]	9	.002
Likelihood Ratio	21.212	9	.012
N of Valid Cases	500		
a. 6 cells (37.5%) have expected count less than 5. The minimum expected count is .12.			

Table 10: Income * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Income	5000-10,000	1	74	102	14	191
	11,000-20,000	3	82	130	11	226
	21,000 -30,000	0	15	41	4	60
	31,000 & more	0	7	15	1	23
Total		4	178	288	30	500

Table 11: Chi-Square Tests

	Value	df	p-Value
Pearson Chi-Square	7.470[a]	9	.588
N of Valid Cases	500		
a. 6 cells (37.5%) have expected count less than 5. The minimum expected count is .18.			

Table 12: Location * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Location	Village	1	94	136	14	245
	City	3	84	150	16	253
	Tribal area	0	0	1	0	1
	Other	0	0	1	0	1
Total		4	178	288	30	500

Table 13: Chi-Square Tests

	Value	df	p-Value
Pearson Chi-Square	3.738[a]	9	.928
N of Valid Cases	500		
a. 10 cells (62.5%) have expected count less than 5. The minimum expected count is .01.			

Table 14: Family * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Family	Nuclear Family	2	55	84	11	152
	Joint Family	2	111	190	18	321
	Extra Large Family	0	8	10	1	19
	Other	0	4	4	0	8
Total		4	178	288	30	500

Table 15: Chi-Square Tests

	Value	df	p-Value
Pearson Chi-Square	3.061[a]	9	.962
N of Valid Cases	500		
a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .06.			

Table 16: Occupation * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Occupation	Job	1	59	117	10	187
	Business	2	63	88	11	164
	Labor	1	39	40	7	87
	Not working	0	17	43	2	62
Total		4	178	288	30	500

Table 17: Education * Total score

Chi-Square Tests			
	Value	df	p-Value
Pearson Chi-Square	12.069[a]	9	.209
N of Valid Cases	500		
a. 5 cells (31.3%) have expected count less than 5. The minimum expected count is .50.			

Table 18: Religion * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Religion	Hindu	4	160	251	29	444
	Muslims	0	15	32	1	48
	Jains	0	3	2	0	5
	Other	0	0	3	0	3
Total		4	178	288	30	500

Table 19: Chi-Square Tests

	Value	Df	p-Value
Pearson Chi-Square	6.582[a]	9	.681
N of Valid Cases	500		
a. 11 cells (68.8%) have expected count less than 5. The minimum expected count is .02.			

Table 20: Language * Total score

		Total score				Total
		2. Poor	3. Average	4. Good	5. Excellent	
Language	Gujarati	4	176	283	29	492
	Hindi	0	2	5	1	8
Total		4	178	288	30	500

Table 21: Chi-Square Tests

	Value	df	p-Value
Pearson Chi-Square	.928[a]	3	.819
N of Valid Cases	500		
a. 5 cells (62.5%) have expected count less than 5. The minimum expected count is .06.			

3.5 Cross tabulation

Table 21: Attitude score * Willingness score Cross tabulation

Count							
		Willingness score					Total
		1. Very Poor	2. Poor	3. Average	4. Good	5. Excellent	
Attitude score	2. Poor	0	2	13	8	0	23
	3. Average	1	6	57	114	15	193
	4. Good	2	4	61	153	27	247
	5. Excellent	0	0	5	19	13	37
Total		3	12	136	294	55	500

Table 21: Chi-Square Tests

	Value	Df	p-Value
Pearson Chi-Square	44.029[a]	12	.000
N of Valid Cases	500		
a. 9 cells (45.0%) have expected count less than 5. The minimum expected count is .14.			

3.6 Discussion

Vaccine hesitancy could threaten the efficiency of COVID-19 vaccination once they become commercially available worldwide. Younger participants were more likely to accept COVID-19 vaccination. Older people were less willing to take COVID-19 vaccination. The overall result shows that 49% of community people having good attitude and willingness to receive COVID-19 vaccination. Attitude and willingness to receive COVID-19 vaccination differ according to the demographic variables. Educated people of community apparently more willing to receive COVID-19 vaccination than other. Only 7% of community people having excellent attitude and willingness to receive COVID-19 vaccination, demographic variables age, education, region affects the samples and result of research survey. Attitude and Willingness is mostly average of community people to receive COVID-19 vaccination which is 35%.

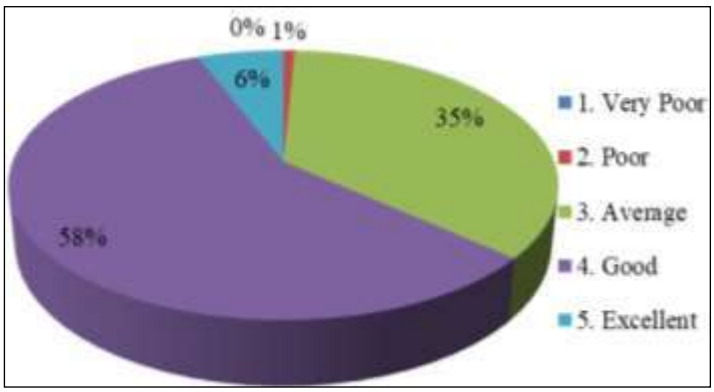

Fig 4: COVID-19 vaccination, demographic variables age, education, region affects the samples and result of research survey

4. Conclusion

In conclusion, we identified that younger participants were more likely to accept COVID-19 vaccination. Older people were less willing to take COVID-19 vaccination. The overall result shows that 49% of community people having good attitude and willingness to receive COVID-19 vaccination. We also conclude that higher educated people strongly agree to take COVID-19 vaccine. We conclude that the male are more interested in taking COVID-19 vaccine, in Surendranagar district as compare to women.

It concluded that demographic variables education and age affects the most to community people to receive COVID-19 vaccination. There is need to educate and aware the people of community by different programmes of government to aware the community people for increasing attitude and willingness to receive COVID-19 vaccination.

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