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A Study to Assess the Knowledge, Attitude and Perception Regarding Administration of COVID-19 Vaccine among Young Adults in Selected Areas of Greater Noida UP

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Abstract: ***Background: Developing an effective and safe COVID-19 vaccines play a pivotal role in global public health to prevent and control the pandemic of COVID-19 diseases. Several vaccines have been developed against Corona virus disease (COVID-19) and distributed globally in different regions of the world. However, general community Knowledge, Attitude and Perception towards COVID-19 vaccines have been poorly understood. Aim: The aim of study was to assess the Knowledge, Attitude and Perception regarding administration of COVID-19 vaccine among Young Adults. Objectives: 1) To assess the Knowledge regarding administration of COVID-19 vaccine among Young Adults. 2) To assess the Attitude regarding administration of COVID-19 vaccine among Young Adults. 3) To assess the Perception regarding administration of COVID-19 vaccine among Young Adults. 4) To find out the association between Knowledge, Attitude and Perception regarding administration of COVID-19 vaccine with selected demographic variables i: e Age, Gender, Education, source of information. Methodology: The quantitative research approach was adopted for this study and Descriptive survey research design was selected for this study. The study was conducted among the young adults from 12th July to 20th July 2021. A 39 item was developed by using Google form i.e. Facebook Messenger, Whatsapp etc. The sample consists of 100 young adults and samples were selected by using simple random sampling technique. Demographic data was collected by using demographic data questionnaire, Knowledge, Attitude and Perception by using structured knowledge questionnaire, five point likert scale and checklist respectively. Results: The collected data was analyzed by using descriptive and inferential statistics. This study showed that knowledge of 63% young adult had good knowledge, 30% had average and 7 % had poor knowledge. Similarly, 58% young adults had a positive attitude, 33% had neutral and 9% had negative. Regarding Perception among young adults, 81% had very good perception, 15% had well and 4% had poor perception respectively. Chi-square values of this study revealed that there was no significant association between knowledge with demographic variable Age, gender and source of information (p>0.05). It was also revealed that there was significant association between knowledge with demographic variables of level of education (P<0.05). Chi-square values revealed that there was no significant association between Attitude with demographic variable Age, gender, level of education and source of information where p value was greater than 0.05 (p>0.05). Chi-square values revealed that there was no significant association between perception with demographic variable Gender and source of information (p>0.05). It was also revealed that there was significant association between Perception with demographic variables of Age and Level of Education where p value was less than 0.05 (P<0.05). Conclusion: The finding shows that study was effective with good knowledge, positive attitude but very good perception towards COVID- 19 vaccine among young adults.***

Keywords: Knowledge, Attitudes and Perception regarding administration of COVID-19 vaccines

1. Introduction

Vaccines are the most important public health measure and most effective strategy to protect the population from COVID-19, since SARS-CoV-2 is highly contagious virus and affects populations widely and globally. The competition for COVID-19 vaccine invention and development against the spread and catastrophic effects of the disease is ongoing.[1, 2] A global survey of potential COVID-19 vaccine acceptance shows that 48% of their study population were confused about the COVID-19 vaccinations and remained unsure about whether they would have the vaccination[3]. Similarly, a Chinese study found that only just over half of their participants (54%) said that they intended to have the vaccination[4]. These relatively low proportions of people willing to have the vaccine are potentially worrying, since although the most effective measure of controlling the spread of the virus is to protect oneself from being exposed to COVID-19, it is also necessary to vaccinate the vulnerable group of people as soon as possible[5]. COVID-19 vaccine program and to ensure that communication efforts are attuned to factors affecting acceptance, it is critical that governments understand people's perceptions towards vaccination against COVID-19[6, 7].

Government of India has selected priority groups who will be vaccinated on priority as they are at high risk. The first group includes healthcare and frontline workers. The second group receives COVID-19 vaccine will be persons over 50 years of age and persons under 50 years of with Comorbid conditions. Several vaccines have been approved against COVID-19 disease & these are Covishield, Covaxin, AstraZeneca, Pfizer BioNTech, moderna, Spuntik V, Johnson & Johnson's Janssen vaccine etc. India has developed two vaccines i: e, the vaccine Covaxin (Bharat Biotech) is inactivated killed pathogens that cannot replicate

itself and Covidshield (serum institute of India) is Non replicating viral vector: another virus that cannot copy itself carries the pathogens gene[8, 9]. Data of COVID-19 till 8th may 2021, Worldwide data, 1.3 billion total dose was given, 314 million fully vaccinated, 4.0% of population fully vaccinated. In India total dose was given 168 million, fully vaccinated 34.5 million, 2.5% of population fully vaccinated[10].

2. Methodology

The quantitative research approach was adopted for this study and Descriptive survey research design was selected for this study. A study to assess the Knowledge, Attitude and Perception regarding administration of COVID-19 vaccine among Young Adults in selected Areas of Greater Noida UP.

The study was conducted among the Young adults from 12th July to 20th July 2021. A 39 item was developed by using Google form i.e. Facebook Messenger, Whatsapp etc. The sample consists of 100 young adults and samples were selected by using simple random sampling technique. Demographic data was collected by using demographic data questionnaire, Knowledge, Attitude and Perception by using structured knowledge questionnaire, five point likert scale and checklist respectively.

Development of Tool

Development of research tool was done through the various literature reviews. The primary and secondary sources of literature were reviewed to develop the appropriate tool at appropriate time. Validity was obtained from the 7 experts from different department of nursing, Statistician. Their opinions and valuable suggestion were incorporated in the tool and it was finalized.

Description of the Tool

The questionnaire consists of 4 parts:

Section A: Demographic data was collected from the sample which including Age, sex, Marital status, religion, level of education, occupation, source of information, monthly income and vaccination.

Section B: Structured questionnaire used to assess the knowledge regarding administration of COVID-19 vaccine among young Adults.

Section C: 5 Point likert scale used to assess the attitude of young adults regarding administration of COVID-19 vaccine.

Section D: Checklist used to assess the perception of young adults regarding administration of COVID-19 Vaccine.

Ethical Consideration

The ethical clearance was obtained prior to the commencement of data collection and areas listed below:

- Ethical Clearance was obtained from Institutional Ethics Committee, Sharda University.
- Principal, School of Nursing Science and Research, Sharda University.
- Permission from AVJ heights Apartment, Zeta – 1, Greater Noida, UP.

Data Collection Procedure

The areas were selected for the study was sector Zeta 1, AVJ heights, Greater Noida U. P. The procedure of the study will be explained to the study participants. Young adults will be selected as sample according to the exclusion and inclusion criteria. This study was conducted through electronic media (Google form).

3. Result and Analysis

Section- A: Frequency and percentage distribution according to demographic variables

(n= 100)

S. No	*Demographic Variables*	*Frequency*	*Percentage (%)*
1	**Age in years**		
	18-23 yr	32	32
	24 – 29 yr	35	35
	30 – 35 yr	33	33
2	**Gender**		
	Male	47	47
	Female	53	53
3.	**Marital Status**		
	Married	52	52
	Unmarried	48	48
4.	**Religion**		
	Hindu	84	84
	Muslim	6	6
	Christian	6	6
	Sikh	4	4
5	**Level of education**		
	Primary	9	9
	Secondary	17	17
	Graduate	40	40
	Post-graduate and above	34	34
6	**Occupation**		
	Unemployment	15	15
	Student	37	37
	Business	13	13
	Private Service	21	21
	Government service	14	14
7.	**Source of information**		
	Social media	66	66
	Co-worker	20	20
	Radio / television	8	8
	Newspaper	6	6
8.	**Monthly income**		
	10, 000 – 20, 000	47	47
	20, 001-30, 000	17	17
	30, 001 – 40, 000	12	12
	Above 40, 001	24	24
9	**Vaccination**		
	Yes	100	100
	No	0	0

Section –B

1) To assess the knowledge regarding administration of COVID-19 vaccine among young adults.

Table 4.10: Frequency and Percentage distribution based on level of Knowledge, n=100

Knowledge Level	Scoring Criteria	Frequency	Percentage (%)
Good	7-10	63	63
Average	4-6	30	30
Poor	0-3	7	7

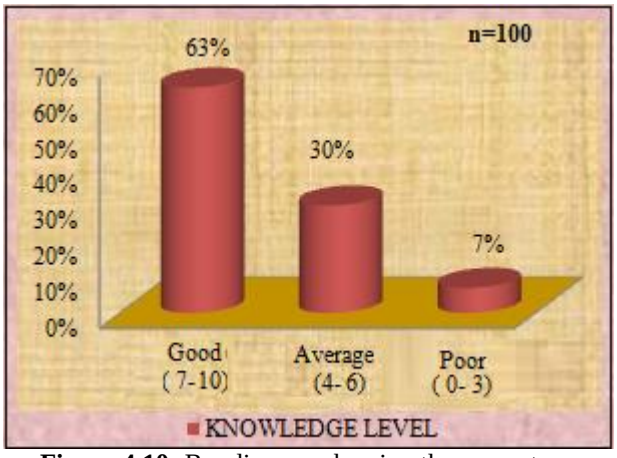

Figure 4.10: Bar diagram showing the percentage distribution of samples based on Knowledge level

Section – C

2) To assess the attitude regarding administration of COVID- 19 vaccine among young adults

Table 4.12: Frequency and Percentage distribution based on Attitude n =100

Attitude	Scoring Criteria	Frequency	Percentage (%)
Positive	38-50	58	58
Neutral	26 – 37	33	33
Negative	< 25	9	9

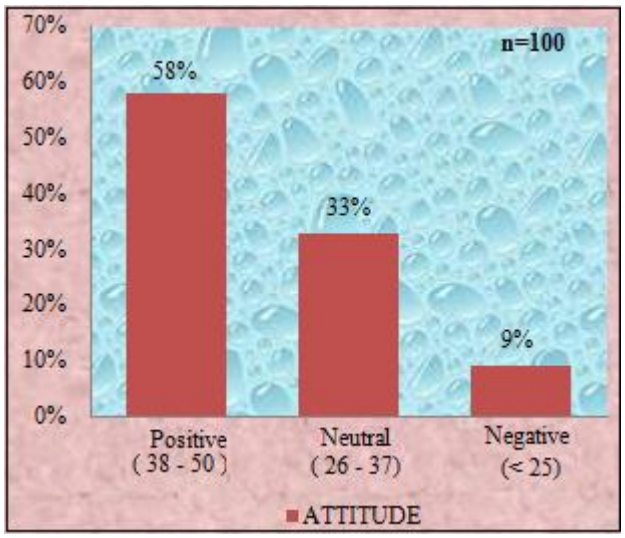

Figure 4.11: Bar diagram showing the percentage distribution of samples based on Attitude

Section- D

3) To assess the perception regarding administration of COVID-19 vaccine among young adults

Table 4.14: Frequency and Percentage distribution based on perception n=100

Perception	Scoring Criteria	Frequency	Percentage (%)
Very good	7-10	81	81
Good	4-6	15	15
Poor	0-3	4	4

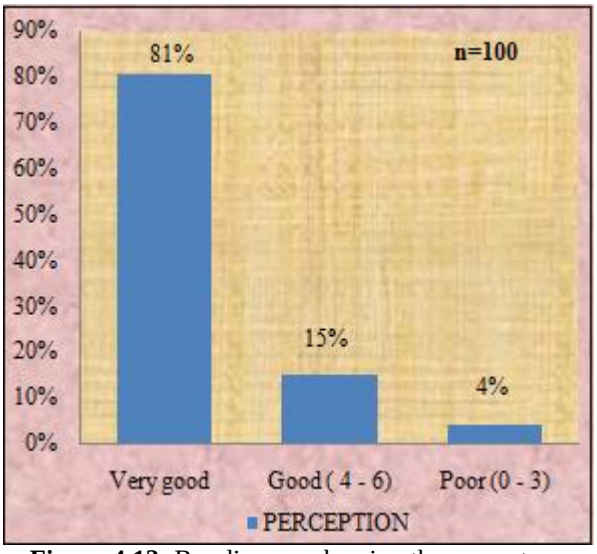

Figure 4.12: Bar diagram showing the percentage distribution of samples based on Perception

Section – E

4) To Find out the association between Knowledge, Attitude and Perception Regarding Administration of COVID-19 Vaccine with Selected Demographic Variables I: E Age, Gender, Education, Source of Information.

Table 4.16: Shows Association between Knowledge regarding administration of COVID-19 vaccine with selected demographic variables i: e Age, Gender, Education, Source of information. n=100

S. no	Demographic variables	Frequency of Knowledge score criteria			Chi-square value (x^2)	P Value
		Good	**Average**	**Poor**		
1	**Age in years**					
	18 – 23	15	14	3	5.746	0.219 NS
	24-29	26	7	2		
	30-35	22	9	2		
2	**Gender**					
	Male	28	15	4	0.563	0.755 NS
	Female	35	15	3		
3	**Level of Education**					
	Primary	5	2	2	15.444	**0.017 S**
	Secondary	5	9	3		
	Graduate	28	11	1		
	Post-graduate & above	25	8	1		
4	**Source of information**					
	Social media	44	18	4	3.664	0.722 NS
	Co-workers	13	6	1		
	Radio/ television	4	3	1		
	Newspaper	2	3	1		

Table 4.17: Shows Association between Attitude regarding administration of COVID-19 vaccine with selected demographic variables i.e. Age, Gender, Education, Source of information, n=100

S. no	Demographic Variables	Frequency of Attitude score criteria			Chi – square value (x^2)	P Value
		Positive	Neutral	Negative		
1	**Age in years**					
	18 – 23	18	9	5	3.401	0.493 NS
	24-29	19	14	2		
	30-35	21	10	2		
2	**Gender**					
	Male	29	14	4	0.511	0.775 NS
	Female	29	19	5		
3	**Level of education**					
	Primary	6	2	1	10.075	0.122 NS
	Secondary	5	8	4		
	Graduate	24	13	3		
	Post – graduate and above	23	10	1		
4	**Source of information**					
	Social media	35	25	6	7.770	0.255 NS
	Co-workers	14	5	1		
	Radio/ television	6	2	0		
	Newspaper	3	1	2		

Table 4.18: Shows Association between Perception regarding administration of COVID-19 vaccine with selected demographic variables i.e. Age, Gender, Education, Source of information, n=100

S. no	Demographic Variables	Frequency of Perception score criteria			Chi – square value (x^2)	P value
		Very good	Good	Poor		
1	**Age in years**				10.593	**0.032 S**
	18 – 23	23	5	4		
	24-29	28	7	0		
	30-35	30	3	0		
2	**Gender**					
	Male	38	7	2	0.015	0.992 NS
	Female	43	8	2		
3	**Level of education**					
	Primary	6	1	2	15.230	**0.019 S**
	Secondary	11	4	2		
	Graduate	34	6	0		
	Post – graduate and above	30	4	0		
4	**Source of information**					
	Social media	52	12	2	7.477	0.279 NS
	Co – workers	17	3	0		
	Radio / television	7	0	1		
	Newspaper	5	0	1		

4. Discussion

The present study findings were discussed based on the objectives of the study and statistical findings and with similar study findings.

Description of sample characteristics

The present study showed that the majority participants of the young adults 35% were in the age group of 24-29 years, 53% were female, 52% were married, 84% were Hindu, 40% were graduate, 37% were student, 66% got information were social media, and 47% were monthly income of Rs 10, 000 20, 000. The vaccination status, 100% samples belong to Unvaccination group.

Findings related to assess Knowledge regarding administration of COVID-19 vaccines among young adults

This study revealed that Knowledge regarding administration of COVID-19 Vaccine showed that 63% young adult had good knowledge, 30% had average and 7 % had poor knowledge respectively. The mean score of knowledge was 7.08, Mean percentage was 78% and Standard deviation was 1.846.

Findings related to assess Attitude regarding administration of COVID-19 vaccine among young adults

The Attitude regarding administration of COVID-19 vaccine showed that, 58% young adults had a positive attitude, 33% had neutral and 9% had negative. The mean score of Attitude was 37.80, Mean percentage was 75.6% and Standard deviation was 7.077.

Findings related to assess Perception regarding administration of COVID-19 vaccine among young adults

The Perception regarding administration of COVID-19 vaccine was 81% had very good perception, 15% had good and 4% had poor perception. The mean score of Perception was 7.96, Mean percentage was 79.6% and Standard deviation was 1.669.

Findings related to find out association between Knowledge, Attitude and Perception regarding administration of COVID-19 vaccine with selected demographic variables i.e. Age, gender, education, source of information

In the present study Chi-square values was revealed that there was no significant association between knowledge with demographic variable i.e. Age, gender and source of information where p value was greater than 0.05 (P>0.05). So it revealed that there was significant association between knowledge with demographic variables of level of education as p value was less than (P<0.05). Hence, research hypothesis was accepted.

Chi-square was revealed that there was no significant association between Attitude with demographic variable i: e Age, gender, level of education and source of information where P value was greater than 0.05 (P>0.05). Hence, research hypothesis was rejected.

Similarly, Chi-square values was revealed that there was no significant association between perception with demographic variable Gender and source of information as P value was greater than 0.05 (P>0.05) and it revealed that there was significant association between Perception with

demographic variables of Age and Level of Education where p value was less than 0.05 (P<0.05). Hence, research hypothesis was accepted.

The present study[18] supported by conducted in Bangladesh regarding knowledge, attitude and perceptions towards COVID-19 vaccination. The result showed that the majority of 87% were young, 55.6% were male, 85.5 were unmarried, 82.6% were higher education, 79.5% were nuclear, 65.6% were urban residence and 57 % had inadequate knowledge, 78% had positive attitude and 57% had perception regarding COVID-19 Vaccinations among community people. This study concluded that to improve knowledge, immediate health education programs need to be initiated before mass vaccination schedule.

In another study [20]supported by conducted in Beliefs and barriers associated with vaccination among the general population in India. The result showed that 55% believed that the COVID-19 vaccination will be safe while only 46.2% believed that it will be effective. Majority of the participants (86.3%) were planning to get COVID-19 vaccination, whereas 13.7% admitted hesitancy. This study will help the decision makers to formulate efficient strategies that can help to implement the COVID-19 vaccination programme successfully in India.

5. Conclusion

The finding of the study in relation to knowledge regarding administration of COVID-19 vaccine among young adults, 63% had good knowledge, 58 % had positive attitude and 81% had very good perception. There was significant association between knowledge with level of education and Age and level of education in perception. There was no significant association between attitude with demographic variables i: e Age, gender, level of education and source of information. To increase awareness on COVID-19 vaccinations program different mass medias like face book, whatsapp, youtube, Call ring back tone etc can be used. So that the misconceptions regarding COVID-19 vaccinations can be removed. Hence helps to increase the acceptability of COVID-19 vaccination and protect them sufferings from COVID-19. As many research shows that vaccinated group of people have good antibody after vaccinations and prevent from complications of COVID-19, if they were infected from COVID-19.

6. Recommendations

Based on the findings of the study the following recommendations have been made for the study includes:

- A similar study can be conducted in different settings.
- A study can be done on large platform for generalizing more effective results.
- The federal government should be more intentional committing more resources to public health awareness program to enlighten the masses about the benefits of receiving safe and effective COVID-19 vaccine.
- Further researchers conducting similar survey should extend the duration of the survey longer than we did to receive more response (large sample size) that will clear the picture of Knowledge, Attitude and Perception regarding Covid vaccine.

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