A Descriptive Study to Assess the Knowledge and Attitude regarding Immediate Response to the First Dose of COVID-19 Vaccine Covishield among Adult Age (18-44) at Selected Hospital District Mandi (H.P.)

Dr. Periadurachi Kumar[1], Nisha Kuamri[2], Akanksha[3], Arti Sharma[4], Babita Kumari[5], Bindiya Abrol[6]

[1] Principal, Department of Community Health Nursing, Abhilashi College of Nursing, Mandi, Himachal Pradesh 175008 .
peraidurachikumar[at]gmail.com

[2] Vice Principal, Department of Community Health Nursing, Abhilashi College of Nursing, Mandi, Himachal Pradesh 175008.
kumarinishamandi[at]gmail.com

[3, 4, 5, 6] Students of P. B. B. Sc. 2nd year, Department of Nursing, Abhilashi College of Nursing, Mandi, Himachal Pradesh 175008
ankshu963[at]gmail.com, sarti14894[at]gmail.com, bhardwajbabita523[at]gmail.com, bindiyaabrol113[at]gmail.com

Running Title: To assess the knowledge and attitude regarding immediate response to the first dose of COVID-19 vaccine covishield

Abstract: *High rates of vaccination worldwide are required to establish herd immunity and stop the current COVID-19 pandemic evolution. Several vaccines have been approved for use against coronavirus disease (COVID-19) and distributed globally in different regions. However, general community knowledge and attitude towards COVID-19 vaccinations are poorly understood, thus the study aimed to assess the knowledge and attitude regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital district Mandi (H.P). Objectives of the study are to assess the knowledge and attitude regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital district Mandi (H.P), to find out the association between knowledge and attitude score regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital district Mandi (H.P) with their selected demographic variables. A descriptive research design with purposive sampling technique includes 160 adults with age group (18-44) years who were vaccinated with first dose of COVID-19 vaccine Covishield were enrolled into this study. The tools for data collection includes informed consent, socio-demographic variables, self-structured knowledge questionnaires and likert scale were administered by interview method. Analysis and interpretation of the data was done by using both descriptive and inferential statistics. Result shows that out of 160 adults 111(69%) had moderate knowledge, 40(25%) had adequate knowledge and 9(6%) had inadequate knowledge and out of 160 adults 103(64%) had Neutral attitude, 52(33%) had Positive attitude and 5(3%) had Negative attitude. Based on the objectives Chi-square test was used to associate the level of knowledge and attitude scores with their selected demographical variables. There is no significance association between the level of knowledge and attitude scores with their selected demographic variables. The calculated chi-square values were less than the table value at the 0.05 level of significance.*

Keywords: Knowledge, Attitude, COVID-19, vaccine, immediate response

1. Introduction

Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is the causative virus for the coronavirus disease 2019 (COVID-19) ongoing pandemic. SARS-CoV-2 first emerged in late 2019 in Wuhan (Hubei, China) and hastily become a global threat affecting 220 countries. 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. The pandemic has resulted in a devastating impact worldwide, which prompted the need for mitigation policies to contain the pandemic[1]

On February 15, 2021, the World Health Organization (WHO) recommended the Serum Institute of India Pvt Ltd COVID-19 Vaccine (ChAdOx1-S [recombinant]) known as COVISHIELD. On March 19, 2021, the WHO confirmed that the AstraZeneca COVID-19 vaccine (Covishield) has a favorable benefit-risk profile, with tremendous potential to prevent infections and reduce deaths worldwide. On April 23, 2021, the Centre for Cellular and Molecular Biology announced that CoviShield might protect people from various SARS-CoV-2 mutations. SII's updated fact sheet for CoviShield. CoviShield is the Serum Institute of India version of the AstraZeneca COVID-19 vaccine. SII announced CoviShield's pricing on April 21, 2021. On June 4, 2021, a non-peer-reviewed study found 'CoviShield vaccinated healthcare workers could produce a high immune response in up to 95% of recipients and prevent serious disease in those infected after immunization.

Administering anti-coronavirus vaccines to healthcare workers began in Himachal Pradesh as Chief Minister Jai Ram Thakur launched the inoculation drive at Indira Gandhi Medical College (IGMC) here on 16th January 2021. Hardeep Singh, a sanitation worker, was the first person in the state to be administered a shot. After him, IGMC senior

medical superintendent Dr Janak Raj got vaccinated. The vaccines are being administered to healthcare workers at 27 centres across the state, a senior health department official said. The second dose of the vaccine would be administered to them after 28 days. Consignment of 93,000 doses of COVID-19 vaccine had reached the state capital on Thursday. The consignment of Covishield vaccine, produced by Pune-based Serum Institute of India, had been airlifted from Pune to Chandigarh, from where it was brought to Shimla by road. Subsequently, doses were sent to other districts and areas for administering it to healthcare workers.

CoWIN (Covid Vaccine Intelligence Network) is an Indian government web portal for COVID-19 vaccination registration, owned and operated by India's Ministry of Health and Family Welfare. It displays booking slots of COVID-19 vaccine available in the nearby areas and can be booked on the website. On 16 January 2021, CoWin started offering COVID-19 vaccination for Frontline Workers in the country. On 1 March 2021, the platform started offering vaccination to all residents over the age of 60, residents between the ages of 45 and 60 with one or more qualifying comorbidities, and any health care or frontline worker that did not receive a dose during phase 1. From 1 April 2021, eligibility was extended to all residents over the age of 45. Registration for the next phase began on 28 April 2021 for 1 May 2021, extending eligibility to all residents over the age of 18.

Registration for the vaccination slots can be booked on the same day or a few days prior. The platform has also been integrated in the Aarogya Setu and UMANG Apps. The certificate after COVID-19 vaccination can also be obtained through the platform.[2] As of now, three vaccines can be registered on the platform in the country Covishield, Covaxin and Sputnik V.[5]

As nursing personal we believe that people should have knowledge regarding COVID-19 vaccine. Hence the researcher felt need to assess the knowledge and regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital Mandi (HP).

Statement of the problem

A Descriptive study to assess the knowledge and attitude regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital district Mandi (H.P).

Objectives of the Study
- To assess the knowledge and attitude regarding immediate response to first dose of COVID -19 vaccine Covishield among adult age (18-44) years.
- To find out association between adult knowledge and attitude score regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital district Mandi (H.P.) with their selected demographic variables.

Assumptions
- Adults may have less knowledge regarding COVID-19 vaccine.
- There may be association between adults knowledge and attitude on COVID-19 vaccine with their selected demographic variables.
- Adults may have their own beliefs regarding COVID-19 vaccine.

Delimitations
- It is limited to adults who are in age group of 18-44 years.
- It is limited to adults who are taking Covishield vaccine.

2. Methodology

Research Approach
Quantitative research approach was considered to be the most appropriate to collect data

Research Design
In this study an descriptive research design was used to assess the knowledge and attitude regarding immediate response to the first dose of COVID -19 vaccine

Variable
Research variable - Knowledge and Attitude.

Setting
The study was conducted in zonal hospital Mandi (H.P).

Population

Target Population- Population included adults above the age group of 18-44 years in Zonal hospital Mandi.

Accessible population for the study of the adults who were easily available at the time of study in Zonal hospital Mandi (H.P).

Sample and Sampling Technique
The sample of present study comprised in selected area at district hospital Mandi (H.P). The choice of sampling technique was purposive sampling.

Inclusion criteria
This study included those adults who were:-
- Between age group of (18-44 years).
- Willing to participate in study.

Exclusion criteria
This study excluded those adults who were:-
- Not available at the time of data collection.
- Severe allergic reaction
- Any serious medical condition such as immunocompromised or an immunosuppressive therapy or refused to receive medical treatment.

Sample Size
The sample size for the study comprise of 160 adults of age group 18-44 years. The Purposive sampling technique was appropriate for the study for selecting the samples.

Data Collection Tools with Techniques

Data collection tools are the devices that a researcher uses to collect the data. Research tools are devices used to collect the data. The instrument facility is the observation and measurement have the variables of interest.[23]

The present study aimed to obtaining objective information as far as possible, it was felt necessary to conduct the investigation with the help of a combination of the following tools:

Section A-Socio - demographic variables- Interview method technique.

Section B-self-structured knowledge questionnaires to assess the knowledge (Part-A) and likert scale to assess the attitude (Part-B) regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital district Mandi (H.P).

Description of Tool

A structured knowledge purposive tool was used to assess the knowledge of adult age (18-44) regarding COVID-19 vaccine. Tool was prepared after extensive review of literature, experts opinions and investigators own experience and questionnaires method was used to collect the data.

Section A: Socio-demographic variable: The section A consists of 10 questions to collect data regarding knowledge and immediate response to the first dose of COVID-19 Vaccine. It consist of items for obtaining information about selected factors such as age, gender, marital status, educational qualification, monthly income, types of family, previous knowledge regarding COVID-19 vaccine, do you have any medical condition, have anyone tested positive for COVID-19 in your home or nearby.

Section B: (Part-A) Self Structured knowledge Questionnaire related to COVID-19 Vaccine: This part consist of structured knowledge questions to assess the knowledge regarding immediate response to the first dose of COVID-19 Vaccine Covishield among adult age (18-44 years) at selected hospital Mandi. In questionnaires tool 10 questions were set that is who is eligible to get a COVID-19 vaccine in Distt. Mandi, gap between two COVID -19 Covishield vaccine is, what are the common side-effects of the COVID -19 Vaccine, how many people can be registered in the COWIN portal through one mobile number, how many doses of COVID -19 vaccine will be needed, what is the ratio and percentage regarding effectiveness of COVISHIELD vaccine, who suppose to be vaccinated first protective immunity against COVID -19 infection will be achieved after, if your family or friends were thinking of getting a COVID -19 vaccination, how you guided them, what are the charges for COVID -19 vaccination in Government Hospital at Himachal Pradesh.

Categorization of knowledge score:

S.No.	Level of Knowledge	Percentage	Range of Score
1	Adequate	71%-100%	8-10
2	Moderate	31% -70 %	4-7
3	Inadequate	<30%	0-3

Neutral attitude = 36-50
Negative attitude = 15-35

Attitude score categorized into three levels:

Level of Attitude	Percentage (%)	Score
Positive attitude	67-100%	51-75
Neutral attitude	48-66%	36-50
Negative attitude	<45%	15-35

Validation of Tool

Content validity of the developed tools was obtained by submitting the tool to 5 experts, for checking its accuracy and relevancy and also to obtain their opinions and suggestions.

Pilot Study

Pilot study is a small-scale version trial run done in preparation for a measure study or to assess feasibility. The function of the study is to obtain information for improving the project or for assessing its feasibility.[23]

The pilot study was conducted in CHC hospital Ratti. After taking prior formal permission from the BMO.

Pilot study was conducted in CHC Ratti, in the first week of September 2021 to check the feasibility of the study. The samples were selected by using purposive sampling technique. Total 16 adults were selected who meet the inclusion criteria. The data was collected by using Self structured knowledge questionnaire tool and likert scale. Analysis of data was done by using descriptive and inferential statistics. On analysis, the tool was found feasible and practicable. No further changes were made in tool after pilot study and investigators proceed for main study.

Reliability of Tool

Reliability of an instrument is the degree of consistency with which is measure the attributes it is suppose to be measuring.[23]

The reliability of tool was established by testing stability and internal consistency. Internal consistency was assessed by Kuder-Richardson formulas. Hence, the structured knowledge questionnaires tool was found reliable and the Likert scale to assess the attitude related to COVID-19 vaccine was calculated by using Cronbach alpha test.

Sr. No.	Formula	Value	Normal value
1	Kuder-Richardson formulas	0.08	0-1
2.	Cronbach alpha test	0.71	0.91-0.70

Data Collection Procedure

After completion of pilot study, final study was conducted in the month of September 2021. We met the CMO and formal permission was taken from him to collect the data for the research study, the CMO gave us information about the vaccination center. We went to the vaccination center for collecting the data by using proper COVID-19 protective measures. There were two rooms, for vaccination and registration respectively. Starting time for vaccination was 10 am to 4pm. On dated 15/09/2021 total number for first dose vaccination was 100. In the room no.1 we took prior

permission from authority and after that we went to the observation room no.2 where we maintained COVID-19 protocols. Researcher A informed to all adults who were coming for COVID-19 vaccine Covishield first dose and took the consent from the adults and researcher B check the name of the adults in the registration portal. Researcher C maintain the protective measures and maintaining the social distance and researcher D collect the samples from the adults by using purposive sampling technique and method of data collection technique was interview method. The data was collected with the help of self-structured knowledge questionnaire tool and attitude by likert scale. Total 68 samples were collected. After the data collection procedure completed, the investigator thanks the respondents and concerned adults for their cooperation in study.

On Dated 17/09/2021we follow the same procedure for collecting the samples. We used purposive sampling technique for selecting the adults for the research study. On that day total adults visited were 80 out of 80 adults on that day 32 samples were collected. Researcher B took the consent from the adults and explain the purpose of the sample collection and researcher C check the name of the adults in the registration portal. Researcher D maintain the protective measures and maintain the social distance and researcher A collect the data from the adults by interview method and total 32 samples were collected. After the data collection procedure completed, the researcher thanks to the adults and concerned adults for their cooperation in the research study.

On Dated 20/09/2021 we follow the same procedure for collecting the samples. We used purposive sampling technique for selecting the adults for the research study. On that day total adults visited were 100 out of 100 adults 26 samples were collected. Researcher C took the consent from the adults and explain the purpose of the sample collection and researcher D check the name of the adults in the registration portal. Researcher A maintain the protective measures and maintain the social distance and researcher B collect the data from the adults by interview method and total 26 samples were collected. After the data collection procedure completed, the researcher thanks to the adults and concerned adults for their cooperation in the research study.

On Dated 22/09/2021 we follow the same procedure for collecting the samples. We used purposive sampling technique for selecting the adults for the research study. On that day total adults visited were 60 out of 60 adults on that day 34 samples were collected. Researcher D took the consent from the adults and explain the purpose of the sample collection and researcher A check the name of the adults in the registration portal. Researcher B maintain the protective measures and maintain the social distance and researcher C collect the data from the adults by interview method and 34 samples were collected. After the data collection procedure completed, the researcher thanks to the adults and concerned adults for their cooperation in the research study

3. Results and Data Analysis

Table 4.1: Frequency and percentage distribution of Demographic variables to assess the knowledge and attitude regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44).

N=160

S. No.	Demographic Variables	Frequency	Percentage %
1	**Age**		
	A) 18-24 Years	46	29
	B) 25-31 Years	69	43
	C) 32-38 Years	27	17
	D) 39-44 Years	18	11
2	**Gender**		
	A) Male	57	36
	B) Female	103	64
	C) Others	-	0
3	**Marital Status**		
	A) Single	27	17
	B) Married	131	82
	C) Divorced	1	1
	D) Widow / Widower	1	1
4	**Educational Qualifications**		
	A) Primary	7	4
	B) Secondary	51	32
	C) Senior-Secondary	57	36
	D) Graduate or above	45	28
5	**Monthly Income**		
	A) Rs<5000	10	6
	B) Rs 5001-10000	71	44
	C) Rs 10001-15000	59	37
	D) Rs 15001-20000	19	12
	E) Rs >20001	1	1
6	**Type of Family**		
	A) Nuclear Family	84	53
	B) Joint Family	63	39
	C) Extended Family	8	5
	D) Single Parent Family	5	3
7	**Residence**		
	A) Rural	139	87
	B) Urban	21	13
8	**Previous knowledge regarding COVID-19 vaccine**		
	A) Television	51	32
	B) Social Media	77	48
	C) Newspaper	9	6
	D) Health Workers	17	11
	E) Others	6	4
9	**Do You have any Medical condition**		
	A) Heart Disease	6	4
	B) Diabetes Mellitus	13	8
	C) Chronic Lung Disease	3	2
	D) Kidney Disease	3	2
	E) Cancer and cancer treatment	2	1
	F) No Medical Condition	133	83
10	**Have anyone tested positive for COVID-19 in your home or nearby**		
	A) My Self	26	16
	B) A Family Member	12	8
	C) Colleague	7	4
	D) Friends	9	6
	E) No one	106	66

Table 4.2: Frequency and percentage distribution of knowledge regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44), N=160

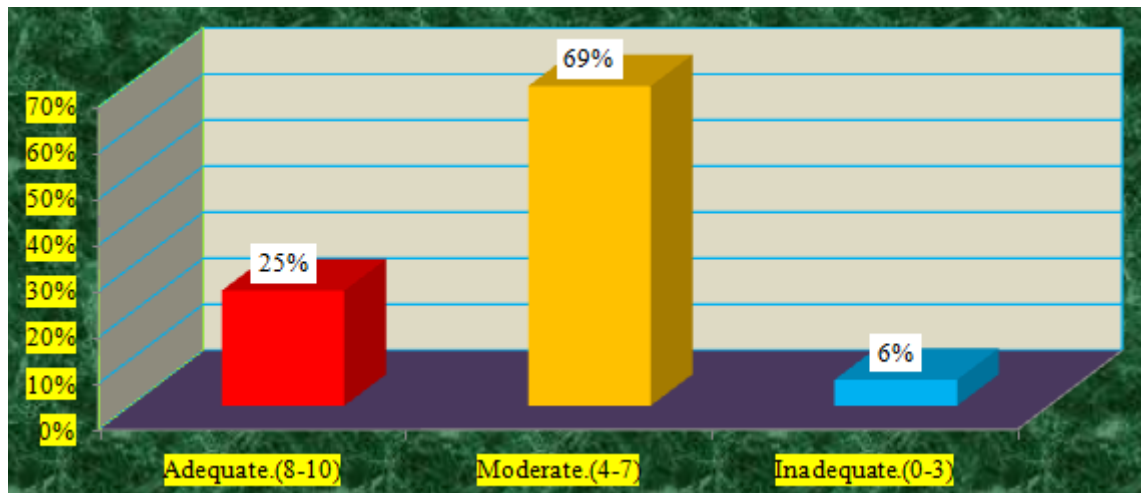| Level of Scores	Percentage	Frequency
Adequate.(8-10)	25%	40
Moderate.(4-7)	69%	111
Inadequate.(0-3)	6%	9

Figure 4.1: Bar graph shows the frequency and percentage distribution of knowledge among adult age (18-44) regarding immediate response to the first dose of COVID-19 vaccine Covishield.

Table 4.2: Mean, SD, Median, Range of knowledge score regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44), N=160

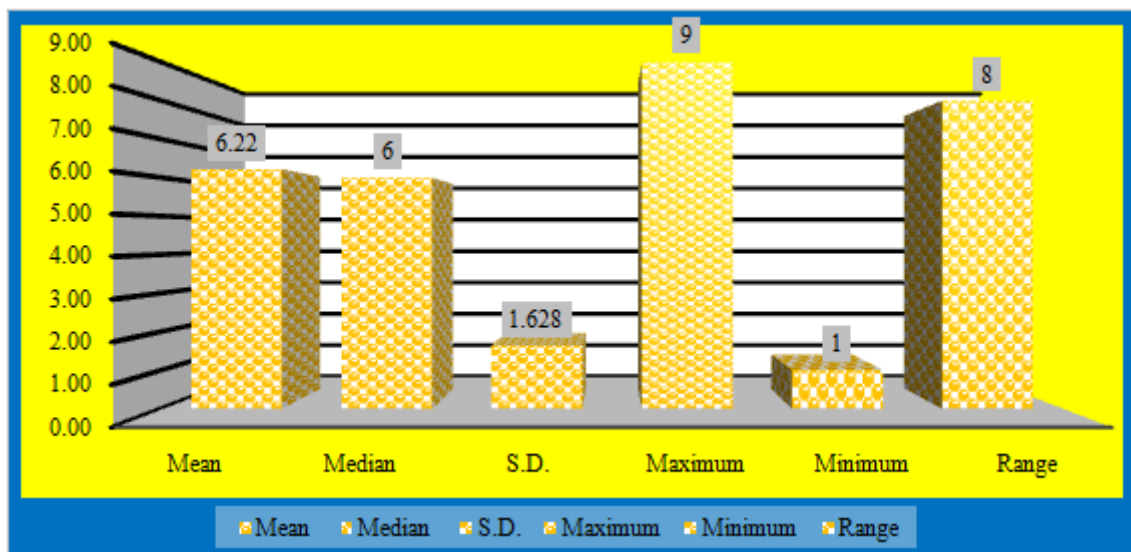| Descriptive Statistics	Mean	SD	Median	Maximum	Minimum	Mean %
Knowledge Score	6.22	6	1.63	9	1	62.19

Figure 4.2: Bar graph shows the Mean, SD, Median range of knowledge score regarding immediate response to the first dose of COVID-19 vaccine among adult age (18-44)

Table 4.3: Association between attitude regarding immediate response to the first dose of COVID-19 vaccine among adult age (18-44) with their selected demographic variables, N=160

S. No.	Demographic Variables	Chi Test	df	Table Value	Mean	P value
	Age					
1	A) 18-24 Years	4.903	3	12.592	6.5	0.556[NS]
	B) 25-31 Years				6.3	
	C) 32-38 Years				5.9	
	D) 39-44 Years				5.8	
	Gender					
2	A) Male	1.494	1	5.991	6	5.991[NS]
	B) Female				6.3	
	C) Others				-	

#	Item / Option	Calculated	df	Table value	Mean	p-value
3	**Marital Status**					
	A) Single	3..109	3	12.592	6.6	0.474^{NS}
	B) Married				6.1	
	C) Divorced				5	
	D) Widow/ Widower				7	
4	**Educational Qualification**					
	A) Primary	4.487	3	12.592	6.6	0.133^{NS}
	B) Secondary				5.6	
	C) Senior-Secondary				6.3	
	D) Graduate or Above				6.8	
5	**Monthly Income**					
	A) Rs <5000	12.44	4	15.507	7.3	0.288^{NS}
	B) Rs 5001-10000				6.3	
	C) Rs 10001-15000				6.1	
	D) Rs 15001-20000				5.9	
	E) Rs>20001				6	
6	**Type of Family**					
	A) Nuclear Family	7.374	3	12.592	6.5	0.620^{NS}
	B) Joint Family				5.9	
	C) Extended Family				5.8	
	D) Single Parent Family				7	
7	**Residence**					
	A) Rural	0.956	1	5.991	6.2	0.612^{NS}
	B) Urban				6.1	
8	**Previous knowledge regarding COVID-19 vaccine**					
	A) Television	6.311	4	15.507	5.9	0.979^{NS}
	B) Social Media				6.6	
	C) Newspaper				5.9	
	D) Health Worker				6.1	
	E) Others				5.3	
9	**Do you have any Medical conditions**					
	A) Heart disease	3.099	5	18.307	5.3	0.545^{NS}
	B) Diabetes Mellitus				6.2	
	C) Chronic lung Disease				4	
	D) Kidney Disease				6	
	E) Cancer and cancer treatment				6.5	
	F) No Medical condition				6.3	
10	**Have anyone tested positive for COVID-19 in your home or nearby**					
	A) My self	6.92	4	15.507	6.9	0.753^{NS}
	B) A Family Member				6.6	
	C) Colleague				5.9	
	D) Friends				5.3	
	E) No one				6.1	

4. Discussion

This study was similar with the study conducted by Muhammed Elhadi. A cross-sectional study to assess the knowledge, attitude and acceptance of healthcare workers and the public regarding the COVID-19 vaccine. A web-based, cross-sectional study was conducted using convenience sampling in Libya from December 1 to 18, 2020 among the general population and healthcare workers. The data were collected by using a self-administered survey which revealed that there is no association of knowledge and attitude score with demographic variables. The demographic variables were Gender, Age, Specific nationality, Employment status, Geographical residency region, Marital status, Monthly income in Libyan Dinars, Presence of financial difficulties, Availability of fixed income and

5. Conclusion

After assessing the knowledge and attitude regarding immediate response to the first dose of COVID-19 vaccine Covishield among adult age (18-44) at selected hospital district Mandi (H.P) the study concluded that adults had moderate knowledge 111(69%) and neutral attitude 103(64%). COVID-19 vaccine are effective and can reduce the risk of getting and spreading the virus. So it is important to get COVID-19 vaccination. Wear a properly fitted mask when physical distancing is not possible and in poorly ventilated setting, Clean your hands frequently with alcohol –based hand rub soap and water, Get vaccinated as soon as its your turn and follow local guidance on vaccination, Make sure your mask covers your nose, mouth and chin and Keep physical distance and avoid crowd and close contacts.

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